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Electricity generated and available for distribution (preliminary)

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SUMMARY OF FINDINGS: ELECTRICITY GENERATED AND AVAILABLE FOR DISTRIBUTION (FEBRUARY 2009)

Key findings

Consumption of electricity decreases

The estimated consumption of electricity in February 2009 decreased by 10,2% (-1 910 Gigawatt-hours) compared with February 2008 (see tables A, 2 and 9a). Electricity consumed for the three months ending February 2009 decreased by 8,5% (-4 871 Gigawatt-hours) compared with the three months ending February 2008 (see tables A and C). Electricity consumption after seasonal adjustment for February 2009 decreased by 0,5% compared with January 2009 (see tables A and 3).

Production of electricity decreases

The estimated production of electricity in February 2009 decreased by 11,2% compared with February 2008 (see tables A and 5). The production of electricity by Eskom decreased by 11,0% (-2 158 Gigawatt-hours) for the same month of 2009. The estimated production of electricity for the three months ending February 2009 decreased by 10,5% (-6 627 Gigawatt-hours) compared with the three months ending February 2008 (see tables A and C).

Distribution of electricity by Eskom to the provinces decreases

Electricity distributed to the provinces for the first two months of 2009 decreased by 9,1% (-3 198 Gigawatt-hours) compared to the first two months of 2008. Decreases were reported for all the provinces during the same period ranging from -17,5% for North West to -2,1% for Northern Cape.

International trade in electricity

The volume of electricity imported from outside South African borders increased from 1 523 Gigawatt-hours in the first two months of 2008 to 2 100 Gigawatt-hours in the first two months of 2009, representing an increase of 37,9% (577 Gigawatt-hours). The volume of electricity exported to neighbouring countries for the first two months of 2009 decreased by 12,9% (-306 Gigawatt-hours) compared to the first two months of 2008, from 2 379 Gigawatt-hours to 2 073 Gigawatt-hours (see table 9b).

Key figures

Table A – Selected key figures regarding electricity generated and available for distribution for February 2009

Estimates	February 2009 1/	% change between February 2008 and February 2009	% change between December 2007 to February 2008 and December 2008 to February 2009	% change between January to February 2008 and January to February 2009
Electricity available for distribution (Gigawatt-hours)	16 759	-10,2	-8,5	-8,6
Index of the physical volume of electricity production (2005=100)	88,5	-11,2	-10,5	-10,5

1/ Preliminary.

Seasonally adjusted estimates	February 2009 1/	% change between January and February 2009	% change between September to November 2008 and December 2008 to February 2009
Electricity available for distribution (Gigawatt-hours)	18 149	-0,5	-7,3
Index of the physical volume of electricity production (2005=100)	96,4	-1,0	-8,1

Table B – Comparison of the seasonally adjusted quantity of electricity generated and available for distribution between the current quarter and the previous quarter

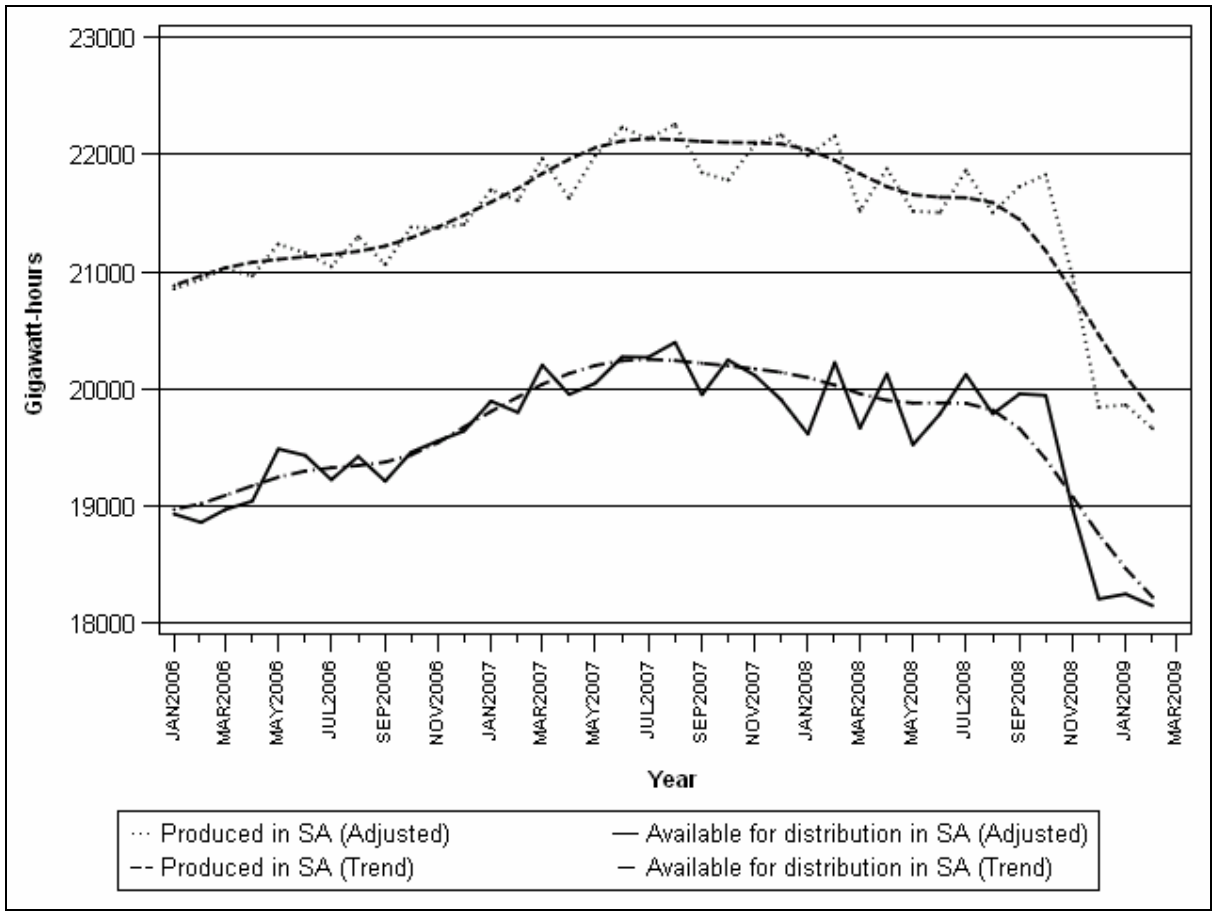
Gigawatt-hours	Seasonally adjusted quantity September to November 2008	Seasonally adjusted quantity December 2008 to February 2009	% change between September to November 2008 and December 2008 to February 2009	Quantity difference between September to November 2008 and December 2008 to February 2009
Electricity produced	64 512	59 368	-8,0	-5 144
Electricity available for distribution in South Africa	58 875	54 605	-7,3	-4 270

Table C – Comparison of actual estimates between the current quarter and the corresponding quarter of the previous year

Gigawatt-hours	Actual quantity December 2007 to February 2008	Actual quantity December 2008 to February 2009	% change between December 2007 to February 2008 and December 2008 to February 2009	Quantity difference between December 2007 to February 2008 and December 2008 to February 2009
Electricity produced	63 183	56 556	-10,5	-6 627
Purchased outside South Africa (import)	2 142	3 175	48,2	1 033
Consumed in power stations and auxiliary systems	4 622	4 250	-8,0	-372
Sold outside South Africa (export)	3 612	3 262	-9,7	-350
Electricity available for distribution in South Africa	57 090	52 219	-8,5	-4 871

Figure 1 below shows the seasonally adjusted and trend patterns for electricity produced and available for distribution in South Africa from January 2006 to February 2009.

Figure 1 – Electricity produced and available for distribution in South Africa from 2006 to 2009



P J Lehohla
Statistician-General

Detailed results: Tables

Table 1 – Total volume of electricity available for distribution in South Africa: 2004 to 2009

	Gigawatt-hours					
	2004	2005	2006	2007	2008	2009
January	17 850	18 149	18 603	19 561	19 261	17 919
February	17 277	17 169	17 396	18 301	18 669	1/ 16 759
March	18 476	18 487	18 982	20 160	19 603	
April	17 524	18 133	18 122	18 982	19 127	
May	18 909	19 224	20 312	20 901	20 362	
June	19 337	18 983	20 166	21 020	20 510	
July	20 156	19 657	20 632	21 780	21 610	
August	19 265	19 191	20 307	21 353	20 735	
September	18 362	18 384	18 987	19 732	19 730	
October	18 714	19 127	19 663	20 435	20 134	
November	18 314	18 523	19 244	19 785	18 645	
December	17 754	18 230	18 909	19 160	17 541	
Year	**221 938**	**223 257**	**231 323**	**241 170**	**235 927**	

1/ Preliminary.

Table 2 – Annual percentage change in electricity available for distribution in South Africa: 2004 to 2009

	Percentage 1/					
	2004	2005	2006	2007	2008	2009
January	4,4	1,7	2,5	5,1	-1,5	-7,0
February	6,9	-0,6	1,3	5,2	2,0	-10,2
March	4,7	0,1	2,7	6,2	-2,8	
April	3,7	3,5	-0,1	4,7	0,8	
May	4,1	1,7	5,7	2,9	-2,6	
June	5,5	-1,8	6,2	4,2	-2,4	
July	5,1	-2,5	5,0	5,6	-0,8	
August	2,9	-0,4	5,8	5,2	-2,9	
September	4,8	0,1	3,3	3,9	-0,0	
October	1,3	2,2	2,8	3,9	-1,5	
November	2,9	1,1	3,9	2,8	-5,8	
December	1,7	2,7	3,7	1,3	-8,4	
Year	**4,0**	**0,6**	**3,6**	**4,3**	**-2,2**	

1/ The percentage change is the change in the index of the physical volume of electricity available for distribution of the relevant year compared with the index of the physical volume of electricity available for distribution of the previous year expressed as a percentage.

Table 3 – Seasonally adjusted total volume of electricity available for distribution in South Africa: 2004 to 2009

	Gigawatt-hours						
	2004	2005	2006	2007	2008	2009	% change between current and previous month
January	18 193	18 480	18 932	19 895	19 614	18 249	0,2
February	18 745	18 625	18 860	19 798	20 225	18 149	-0,5
March	18 409	18 473	18 970	20 203	19 665		
April	18 356	19 044	19 042	19 952	20 128		
May	18 134	18 444	19 487	20 047	19 522		
June	18 572	18 262	19 432	20 273	19 784		
July	18 749	18 300	19 224	20 269	20 123		
August	18 472	18 376	19 423	20 396	19 786		
September	18 600	18 620	19 212	19 950	19 957		
October	18 470	18 912	19 459	20 246	19 944		
November	18 618	18 825	19 556	20 114	18 974		
December	18 542	18 984	19 640	19 908	18 207		

Table 4 – Indices of the physical volume of electricity production: 2004 to 2009

	Base : 2005=100					
	2004	2005	2006	2007	2008	2009
January	95,5	97,6	99,8	103,9	105,3	95,0
February	92,2	91,7	94,0	97,2	99,7	1/ 88,5
March	98,7	100,2	103,3	107,8	105,6	
April	94,7	98,1	98,0	100,9	102,0	
May	102,4	102,9	108,1	112,0	109,5	
June	105,0	101,6	107,3	112,5	108,8	
July	109,5	105,5	110,8	116,6	115,1	
August	104,3	103,0	109,1	114,1	110,3	
September	99,5	99,1	101,8	105,5	104,8	
October	102,1	102,5	107,2	109,1	109,4	
November	98,5	99,4	103,3	106,9	101,4	
December	96,0	98,2	100,9	104,6	93,6	
Year	**99,9**	**100,0**	**103,6**	**107,6**	**105,5**	

1/ Preliminary.

Table 5 – Annual percentage change in indices of the physical volume of electricity production: 2004 to 2009

	Percentage 1/					
	2004	2005	2006	2007	2008	2009
January	6,6	2,2	2,3	4,1	1,3	-9,8
February	8,9	-0,5	2,5	3,4	2,6	-11,2
March	6,2	1,5	3,1	4,4	-2,0	
April	5,1	3,6	-0,1	3,0	1,1	
May	5,3	0,5	5,1	3,6	-2,2	
June	6,6	-3,2	5,6	4,8	-3,3	
July	6,8	-3,7	5,0	5,2	-1,3	
August	1,9	-1,2	5,9	4,6	-3,3	
September	2,6	-0,4	2,7	3,6	-0,7	
October	-0,1	0,4	4,6	1,8	0,3	
November	2,2	0,9	3,9	3,5	-5,1	
December	2,1	2,3	2,7	3,7	-10,5	
Year	**4,4**	**0,1**	**3,7**	**3,8**	**-2,0**	

1/ The percentage change is the change in the index of the physical volume of electricity production of the relevant year compared with the index of the physical volume of electricity production of the previous year expressed as a percentage.

Table 6 – Seasonally adjusted indices of the physical volume of electricity production: 2004 to 2009

	Base : 2005=100						
	2004	2005	2006	2007	2008	2009	% change between current and previous month
January	98,1	100,2	102,4	106,5	107,9	97,4	0,3
February	101,1	100,2	102,6	105,9	108,6	96,4	-1,0
March	98,7	100,1	103,0	107,6	105,3		
April	99,2	102,9	102,8	106,0	107,2		
May	98,7	99,2	104,1	107,9	105,4		
June	100,8	97,7	103,4	108,7	105,2		
July	101,5	98,0	103,0	108,4	107,0		
August	99,7	98,5	104,3	109,1	105,3		
September	100,5	100,4	103,2	107,1	106,5		
October	99,5	100,2	104,9	106,9	107,2		
November	100,1	100,9	104,7	108,3	102,7		
December	100,4	102,3	104,8	108,5	97,1		

Table 7 – Total volume of electricity imported: 2004 to 2009

	Gigawatt-hours					
	2004	2005	2006	2007	2008	2009
January	828	729	872	1 088	638	1 102
February	811	714	646	942	885	1/ 998
March	863	533	581	973	802	
April	641	598	587	1 055	844	
May	547	849	879	900	762	
June	560	813	881	880	1 002	
July	607	856	926	984	1 089	
August	618	883	930	1 045	1 076	
September	590	686	971	1 026	1 044	
October	536	836	682	1 040	640	
November	746	865	862	796	710	
December	679	837	965	619	1 075	
Year	**8 026**	**9 199**	**9 782**	**11 348**	**10 567**	

1/ Preliminary.

Table 8 – Total volume of electricity exported: 2004 to 2009

Month	Gigawatt-hours					
	2004	2005	2006	2007	2008	2009
January	1 037	1 030	1 056	1 134	1 278	1 096
February	977	901	1 050	1 060	1 101	1/ 977
March	1 027	968	1 129	1 231	1 136	
April	951	991	1 017	1 132	998	
May	944	1 083	1 046	1 203	1 119	
June	1 057	1 096	1 102	1 256	1 159	
July	1 140	1 102	1 239	1 301	1 249	
August	1 049	1 144	1 262	1 252	1 220	
September	1 048	1 134	1 239	1 186	1 198	
October	1 112	1 161	1 311	1 252	1 258	
November	1 082	1 119	1 186	1 256	1 252	
December	1 029	1 155	1 129	1 233	1 189	
Year	**12 453**	**12 884**	**13 766**	**14 496**	**14 157**	

1/ Preliminary.

Table 9a – Electricity produced and consumed in power stations, purchased and sold outside South Africa and available for distribution in South Africa (monthly figures)

		Gigawatt-hours				
		February 2008	January 2009	February 2009 1/	% Change between February 2008 and February 2009	Difference between February 2008 and February 2009
Total - All producers	Electricity produced	20 350	19 395	18 057	-11,3	-2 293
	Purchased outside South Africa (import)	885	1 102	998	12,8	113
	Consumed in power stations and auxiliary systems	1 465	1 483	1 319	-10,0	-146
	Sold outside South Africa (export)	1 101	1 096	977	-11,3	-124
	Electricity available for distribution in South Africa	18 669	17 919	16 759	-10,2	-1 910
ESKOM	Electricity produced	19 542	18 643	17 384	-11,0	-2 158
	Purchased outside South Africa (import)	885	1 102	998	12,8	113
	Consumed in power stations and auxiliary systems	1 379	1 412	1 239	-10,2	-140
	Sold outside South Africa (export)	1 101	1 096	977	-11,3	-124
	Electricity available for distribution in South Africa	17 947	17 237	16 166	-9,9	-1 781

1/ Preliminary.

Table 9b – Electricity produced and consumed in power stations, purchased and sold outside South Africa and available for distribution in South Africa (cumulative figures)

		Gigawatt-hours			
		January to February 2008	January to February 2009 1/	% Change between January to February 2008 and January to February 2009	Difference between January to February 2008 and January to February 2009
Total - All producers	Electricity produced	41 840	37 452	-10,5	-4 388
	Purchased outside South Africa (import)	1 523	2 100	37,9	577
	Consumed in power stations and auxiliary systems	3 053	2 802	-8,2	-251
	Sold outside South Africa (export)	2 379	2 073	-12,9	-306
	Electricity available for distribution in South Africa	37 930	34 678	-8,6	-3 252
ESKOM	Electricity produced	40 241	36 027	-10,5	-4 214
	Purchased outside South Africa (import)	1 523	2 100	37,9	577
	Consumed in power stations and auxiliary systems	2 881	2 651	-8,0	-230
	Sold outside South Africa (export)	2 379	2 073	-12,9	-306
	Electricity available for distribution in South Africa	36 503	33 403	-8,5	-3 100

1/ Preliminary.

Table 10 – Electricity distributed by Eskom to provinces for 2008 and 2009 1/

		Gigawatt-hours									
		Western Cape	Eastern Cape	Northern Cape	Free State	KwaZulu-Natal	North West	Gauteng	Mpuma-langa	Limpopo	Total South Africa
2008	January	1 928	749	396	749	3 552	2 207	4 861	2 661	874	17 977
	February	1 839	758	396	700	3 390	2 102	4 640	2 600	898	17 323
	March	1 937	779	393	749	3 363	2 217	4 945	2 801	934	18 118
	April	1 893	753	363	717	3 322	2 089	4 784	2 796	934	17 651
	May	1 985	760	373	796	3 417	2 141	5 414	2 990	1 015	18 891
	June	1 987	834	374	800	3 333	2 142	5 523	2 966	992	18 951
	July	2 065	864	410	839	3 571	2 234	5 919	3 078	1 044	20 024
	August	1 999	845	406	757	3 575	2 180	5 438	2 937	1 039	19 176
	September	1 975	829	419	785	3 460	2 093	5 009	2 806	1 005	18 381
	October	1 952	838	442	803	3 575	2 192	4 983	2 985	1 010	18 780
	November	1 813	750	405	754	3 425	2 052	4 665	2 594	828	17 286
	December	1 872	673	391	737	3 258	1 845	4 292	2 399	848	16 315
	Year	23 245	9 432	4 768	9 186	41 241	25 494	60 473	33 613	11 421	218 873
	Year to date	**3 767**	**1 507**	**792**	**1 449**	**6 942**	**4 309**	**9 501**	**5 261**	**1 772**	**35 300**
2009	January	1 886	733	408	748	3 368	1 833	4 502	2 265	849	16 592
	February 2/	1 779	625	367	655	3 173	1 722	4 283	2 154	752	15 510
	Year to date	**3 665**	**1 358**	**775**	**1 403**	**6 541**	**3 555**	**8 785**	**4 419**	**1 601**	**32 102**

1/ Wholesale energy as delivered by Eskom to the various provinces.
2/ Preliminary.

Explanatory Notes

Introduction **1** Statistics South Africa (Stats SA) conducts a monthly sample survey of the electricity industry covering electricity undertakings and establishments (branches). This statistical release contains information regarding the number of electricity units generated and available for distribution in South Africa, the number of units purchased and sold outside South Africa and the number of units distributed by Eskom by province on a monthly basis. Both actual and seasonally adjusted figures are published.

2 This statistical release reflects indices of the physical volume of electricity production on the basis of 2005=100. In accordance with international practice, the indices have to be rebased every five years to a new base year.

3 In order to improve timeliness of the publication, 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 generated and available for distribution 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 or transmission and distribution of electricity, including 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.

Response rate **7** The response rate for the survey on electricity generated and available for distribution for February 2009 was 99%.

Statistical unit **8** The basic 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. Each statistical unit is classified to an industry (see paragraph 5).

Survey methodology and design **9** 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 category one cases) 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 kilowatt is excluded from the sample.

10 The survey is conducted by mail each month collecting information from a sample of 22 electricity undertakings or establishments.

Monthly production indices **11** The calculation of the monthly production indices is based on the number of electricity units produced.

Benchmarking

12 The index of physical volume of electricity production should provide an accurate reflection of the trend of activities of the relevant industry. The level of activities as measured by the monthly electricity generated and available for distribution survey is based on information received from a sample of electricity undertakings and establishments, which are weighted according to the original sample, designed in order to represent the population of electricity undertakings and establishments. It is necessary to adjust the level of activities as measured by the monthly sample survey to the level of activities as measured periodically by the Census of electricity, gas and steam. This procedure, whereby the latest results of an economic census are used to compile more accurate level estimates for a certain year, is known as benchmarking.

13 The results of the 1995 Census of electricity, gas and steam served as benchmarks to verify or adjust the level of the monthly physical volume of electricity production indices collected through the monthly sample survey. The level adjustments were done on the volume indices for August of the relevant census year (the 1995 census year covered the period 1 January 1995 to 31 December 1995 and therefore, the benchmarking was done using the index of August 1995 as reference point).

Seasonal adjustment

14 Seasonally adjusted estimates of all items are generated each month, using the X-11 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.

Trend cycle

15 The trend is the long-term pattern or movement of a time series. The X-11 Seasonal Adjustment Program is used for smoothing seasonally adjusted estimates.

Related publications

16 Users may also wish to refer to the following publications which are available from Stats SA -

- *Bulletin of Statistics.*
- *SA Statistics.*

Unpublished statistics

17 In some cases Stats SA can also make available statistics, which are not published. The statistics can be made available as computer printouts, on diskette or CD. Generally a charge is made for providing unpublished statistics.

Rounding-off figures

18 The figures in the tables have, where necessary, been rounded off to the nearest digit shown. There may, therefore, be slight discrepancies between the sums of the constituent items and the totals shown.

Pre-release policy

19 Stats SA pre-release policy may be inspected at its website, www.statssa.gov.za.

Glossary

Electricity undertaking

An electricity undertaking is an undertaking concerned with the generation or transmission and distribution of electricity, including electrical power installations, which as subsidiary divisions of undertakings produce electricity for regular use by these undertakings.

Index of physical volume of electricity production

A statistical measure of the change in the volume of production of electricity in a given period and the volume of production of electricity in the base period. The base period is 2005. The production in the base period is set at 100.

Industry

An industry consists of a group of undertakings or establishments engaged in the same or similar kinds of economic activity. Industries are defined in the 1993 *System of National Accounts (1993 SNA)* in the same way as in the *Standard Industrial Classification of all Economic Activities (SIC)*, Fifth Edition, Report No. 09-90-02.

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
ISIC	International Standard Industrial Classification
SIC	Standard Industrial Classification of all Economic Activities
Stats SA	Statistics South Africa
*	Revised figures

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