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Electricity generated and available for distribution (preliminary)

June 2009

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

Key figures

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

Actual estimates	June 2009	% change between June 2008 and June 2009	% change between April to June 2008 and April to June 2009	% change between January to June 2008 and January to June 2009
Electricity available for distribution (Gigawatt-hours)	19 815	-3,4	-4,5	-5,8
Index of the physical volume of electricity production (2005=100)	104,8	-3,7	-4,7	-6,8

1/ Preliminary.

Seasonally adjusted estimates	June 2009	% change between May and June 2009	% change between January to March 2009 and April to June 2009
Electricity available for distribution (Gigawatt-hours)	19 045	1,0	2,9
Index of the physical volume of electricity production (2005=100)	101,3	0,7	3,4

Key findings

Seasonally adjusted consumption of electricity increases

Electricity consumption after seasonal adjustment for June 2009 increased by 1,0% compared with May 2009 and by 2,9% for the second quarter of 2009 compared with the first quarter of 2009 (see tables A and 3). The actual consumption of electricity in June 2009 decreased by 3,4% (-699 Gigawatt-hours) compared with June 2008 (see tables A, 2 and 9a). Electricity consumed for the first six months of 2009 was 5,8% (-6 864 Gigawatt-hours) lower than during the first six months of 2008 (see tables A and 9b).

Seasonally adjusted production of electricity increases

The estimated production of electricity, after seasonal adjustment, showed an increase of 3,4% for the second quarter of 2009 compared with the preceding quarter (see table A). The actual production of electricity in June 2009 (21 384 Gigawatt-hours) represents a decline of 3,7% compared with the June 2008 figure, the smallest annual decrease for 2009 thus far (see tables A and 5).

Distribution of electricity by Eskom to the provinces lower than a year ago

Electricity distributed to the provinces for the first six months of 2009 was 5,5% (-6 001 Gigawatt-hours) lower compared with the first six months of 2008. Lower figures were reported for eight provinces during this period ranging from -12,1% for Mpumalanga to -1,6% for Northern Cape. KwaZulu-Natal was the only province with an increase (1,3%) during this period.

International trade in electricity

The volume of electricity imported from outside South African borders increased from 4 932 Gigawatt-hours in the first six months of 2008 to 6 096 Gigawatt-hours in the first six months of 2009, representing an increase of 23,6% (1 164 Gigawatt-hours). The volume of electricity exported to neighbouring countries for the first six months of 2009 decreased by 3,7% (-252 Gigawatt-hours) compared with the first six months of 2008, from 6 797 Gigawatt-hours to 6 545 Gigawatt-hours (see table 9b).

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

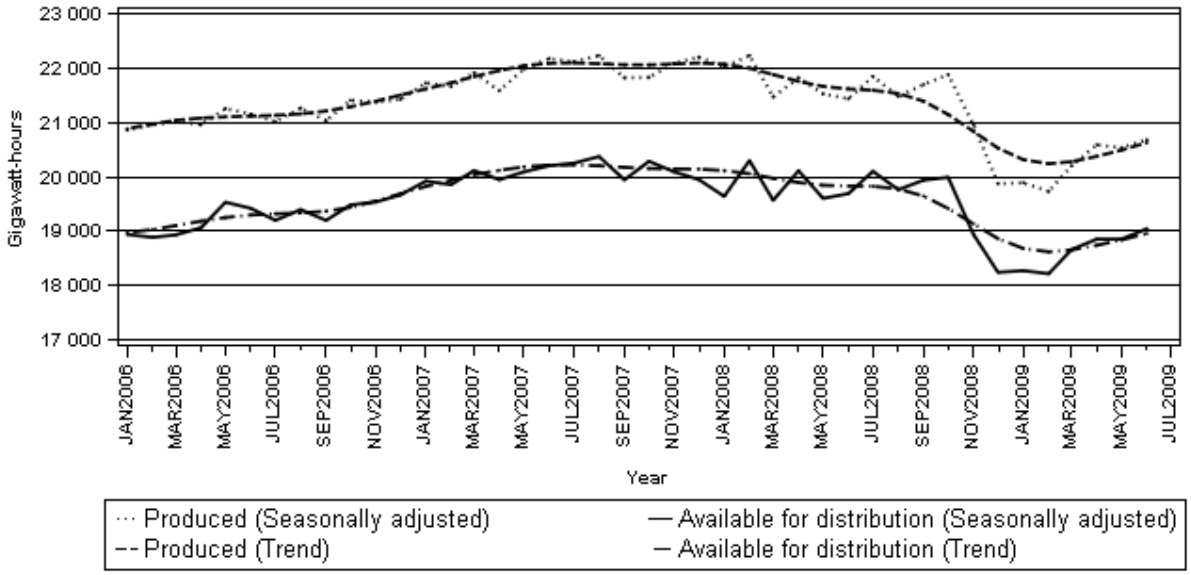
Gigawatt-hours	Seasonally adjusted quantity January to March 2009	Seasonally adjusted quantity April to June 2009	% change between January to March 2009 and April to June 2009	Quantity difference between January to March 2009 and April to June 2009
Electricity produced	59 830	61 814	3,3	1 984
Electricity available for distribution in South Africa	55 153	56 754	2,9	1 601

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

Gigawatt-hours	Actual quantity April to June 2008	Actual quantity April to June 2009	% change between April to June 2008 and April to June 2009	Quantity difference between April to June 2008 and April to June 2009
Electricity produced	65 381	62 349	-4,6	-3 032
Purchased outside South Africa (import)	2 607	2 931	12,4	324
Consumed in power stations and auxiliary systems	4 700	4 602	-2,1	-98
Sold outside South Africa (export)	3 280	3 370	2,7	90
Electricity available for distribution in South Africa	60 007	57 310	-4,5	-2 697

Figure 1 below shows the seasonally adjusted and trend patterns for electricity produced and available for distribution in South Africa from January 2006 to June 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	19 256	17 919
February	17 277	17 169	17 396	18 301	18 668	16 757
March	18 476	18 487	18 982	20 160	19 603	18 698
April	17 524	18 133	18 122	18 982	19 127	17 939
May	18 909	19 224	20 312	20 901	20 365	19 549
June	19 337	18 983	20 166	21 020	20 515	1/ 19 815
July	20 156	19 657	20 632	21 780	21 610	
August	19 265	19 191	20 307	21 353	20 736	
September	18 362	18 384	18 987	19 732	19 725	
October	18 714	19 127	19 663	20 435	20 138	
November	18 314	18 523	19 244	19 785	18 640	
December	17 754	18 230	18 909	19 160	17 541	
Year	**221 938**	**223 257**	**231 323**	**241 170**	**235 924**	

1/ Preliminary.

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

	Percentage change 1/					
	2004	2005	2006	2007	2008	2009
January	4,4	1,7	2,5	5,1	-1,6	-6,9
February	6,9	-0,6	1,3	5,2	2,0	-10,2
March	4,7	0,1	2,7	6,2	-2,8	-4,6
April	3,7	3,5	-0,1	4,7	0,8	-6,2
May	4,1	1,7	5,7	2,9	-2,6	-4,0
June	5,5	-1,8	6,2	4,2	-2,4	-3,4
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 volume of electricity available for distribution of the relevant year compared with the 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	18 201	18 487	18 941	19 923	19 643	18 274	0,2
February	18 750	18 637	18 886	19 857	20 301	18 216	-0,3
March	18 393	18 441	18 933	20 117	19 570	18 663	2,5
April	18 361	19 050	19 063	19 949	20 114	18 854	1,0
May	18 139	18 461	19 534	20 093	19 605	18 855	0,0
June	18 574	18 260	19 421	20 206	19 693	19 045	1,0
July	18 737	18 290	19 200	20 252	20 103		
August	18 469	18 365	19 398	20 376	19 765		
September	18 600	18 616	19 199	19 946	19 941		
October	18 479	18 926	19 484	20 288	19 993		
November	18 615	18 812	19 540	20 093	18 940		
December	18 545	18 989	19 669	19 951	18 242		

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	88,5
March	98,7	100,2	103,3	107,8	105,6	99,3
April	94,7	98,1	98,0	100,9	102,0	96,2
May	102,4	102,9	108,1	112,0	109,6	104,5
June	105,0	101,6	107,3	112,5	108,8	1/ 104,8
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 change 1/					
	2004	2005	2006	2007	2007	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	-6,0
April	5,1	3,6	-0,1	3,0	1,1	-5,7
May	5,3	0,5	5,1	3,6	-2,1	-4,7
June	6,6	-3,2	5,6	4,8	-3,3	-3,7
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	98,0	100,1	102,2	106,4	107,9	97,4	0,1
February	101,1	100,3	102,6	106,1	108,9	96,6	-0,8
March	98,7	100,1	102,9	107,3	105,2	98,9	2,4
April	99,1	102,8	102,7	105,7	106,9	100,8	1,9
May	98,5	99,0	104,1	107,7	105,4	100,6	-0,2
June	101,0	97,9	103,6	108,6	105,0	101,3	0,7
July	101,4	97,9	102,9	108,3	107,0		
August	99,7	98,3	104,2	108,9	105,2		
September	100,4	100,3	103,0	106,9	106,3		
October	99,5	100,1	104,9	106,9	107,2		
November	100,1	100,9	104,7	108,2	102,6		
December	100,4	102,3	104,9	108,7	97,3		

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

Month	Gigawatt-hours					
	2004	2005	2006	2007	2008	2009
January	828	729	872	1 088	638	1 102
February	811	714	646	942	885	999
March	863	533	581	973	802	1 064
April	641	598	587	1 055	844	906
May	547	849	879	900	761	937
June	560	813	881	880	1 002	1/ 1 088
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	645	
November	746	865	862	796	711	
December	679	837	965	619	1 075	
Year	**8 026**	**9 199**	**9 782**	**11 348**	**10 572**	

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	1 280	1 096
February	977	901	1 050	1 060	1 101	979
March	1 027	968	1 129	1 231	1 136	1 100
April	951	991	1 017	1 132	998	1 086
May	944	1 083	1 046	1 203	1 120	1 109
June	1 057	1 096	1 102	1 256	1 162	1/ 1 175
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	1 203	
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**	**14 168**	

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				
		June 2008	May 2009	June 2009 1/	% Change between June 2008 and June 2009	Difference between June 2008 and June 2009
Total - All producers	Electricity produced	22 206	21 322	21 384	-3,7	-822
	Purchased outside South Africa (import)	1 002	937	1 088	8,6	86
	Consumed in power stations and auxiliary systems	1 530	1 601	1 481	-3,2	-49
	Sold outside South Africa (export)	1 162	1 109	1 175	1,1	13
	Electricity available for distribution in South Africa	20 515	19 549	19 816	-3,4	-699
ESKOM	Electricity produced	21 167	20 620	20 723	-2,1	-444
	Purchased outside South Africa (import)	1 002	937	1 088	8,6	86
	Consumed in power stations and auxiliary systems	1 436	1 538	1 408	-1,9	-28
	Sold outside South Africa (export)	1 162	1 109	1 175	1,1	13
	Electricity available for distribution in South Africa	19 571	18 910	19 227	-1,8	-344

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 June 2008	January to June 2009	% Change between January to June 2008 and January to June 2009	Difference between January to June 2008 and January to June 2009
Total - All producers	Electricity produced	128 768	120 0054	-6,8	-8 714
	Purchased outside South Africa (import)	4 932	6 096	23,6	1 164
	Consumed in power stations and auxiliary systems	9 367	8 937	-4,6	-430
	Sold outside South Africa (export)	6 797	6 545	-3,7	-252
	Electricity available for distribution in South Africa	117 534	110 670	-5,8	-6 864
ESKOM	Electricity produced	123 363	115 773	-6,2	-7 590
	Purchased outside South Africa (import)	4 932	6 096	23,6	1 164
	Consumed in power stations and auxiliary systems	8 830	8 499	-3,7	-331
	Sold outside South Africa (export)	6 797	6 545	-3,7	-252
	Electricity available for distribution in South Africa	112 665	106 826	-5,2	-5 839

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	**11 569**	**4 633**	**2 295**	**4 511**	**20 377**	**12 898**	**30 167**	**16 814**	**5 647**	**108 911**
2009	January	1 886	733	408	748	3 368	1 833	4 502	2 265	849	16 592
	February	1 779	625	367	661	3 196	1 721	4 272	2 154	752	15 527
	March	1 995	691	404	739	3 553	1 936	4 716	2 442	875	17 351
	April	1 812	713	350	673	3 410	1 852	4 499	2 476	860	16 645
	May	1 852	799	361	735	3 583	2 009	5 270	2 736	935	18 280
	June 2/	1 891	744	368	763	3 529	2 033	5 552	2 711	924	18 515
	Year to date	**11 215**	**4 305**	**2 258**	**4 319**	**20 639**	**11 384**	**28 811**	**14 784**	**5 195**	**102 910**

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 June 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

Consumption of electricity

For purposes of this release the term 'consumption of electricity' is used interchangeably with the term 'electricity available for distribution'.

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

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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