



**Contact Statistician:** Otsile Chelenyane  
Industry Statistics Unit  
**Email:** [ochelenyane@statsbots.org.bw](mailto:ochelenyane@statsbots.org.bw)  
**Tel:** (+267) 367 – 1300; Ext. 333

# ELECTRICITY GENERATION AND DISTRIBUTION

Stats Brief, Quarter 2, 2017



**STATISTICS BOTSWANA**

Published by

STATISTICS BOTSWANA  
Private Bag 0024, Gaborone  
Tel: 3671300 Fax: 3500156  
E-mail: [info@statsbots.org.bw](mailto:info@statsbots.org.bw)  
Website: [www.statsbots.org.bw](http://www.statsbots.org.bw)

**September 2017**

Copyright © Statistics Botswana 2017





# **ELECTRICITY GENERATION AND DISTRIBUTION**

Stats Brief, Quarter 2, 2017

## Table of Contents

1.0	Preface.....	5
2.0	Summary of Findings of the Index of Electricity Generation (IEG).....	6
	2.1 Electricity Generation.....	6
	2.2 Imported Electricity.....	7
	2.3 Distribution of Electricity .....	7
3.0	Technical Notes.....	13
	3.1 Background.....	13
	3.2 Concepts and formula of the Index of Electricity Generation, Importation and Distribution.....	13
	3.3 Base Year .....	13

## List of Tables

<b>Table 1:</b> Selected Key Indicators for Electricity Generation 2013 First Quarter to 2017 Second Quarter.....	6
<b>Table 2:</b> Physical Volume of Electricity Generation (MWH): January 2007 – June 2017.....	8
<b>Table 3:</b> Indices of Physical Volume of Electricity Generation: January 2007 – June 2017.....	8
<b>Table 4:</b> Annual Percentage Changes in the Indices of the Physical Volume of Electricity Generation: January 2007 – June 2017.....	9
<b>Table 5:</b> Quarter on Quarter Percentage Changes: 2007 to June 2017.....	9
<b>Table 6:</b> Physical Volume of Imported Electricity (MWH): January 2007 – June 2017.....	10
<b>Table 7:</b> Annual Percentage Changes in the Physical Volume of Imported Electricity: January 2007– June 2017.....	10
<b>Table 8:</b> Physical Volume of Electricity Distribution (MWH): January 2007 – June 2017.....	11
<b>Table 9:</b> Annual Percentage Changes for the Physical Volume of Electricity Distribution: January 2007 – June 2017.....	11
<b>Table 10:</b> Generation of Electricity (MWH) as a Percentage of Distribution 2007 – June 2017.....	12

## 1.0 Preface

This statistical brief is intended to apprise on Electricity Generation, Importation and Distribution by presenting Monthly, Quarterly and Yearly Volumes as well as Indices for Electricity Generation in Botswana. Also included are Year-on-Year and Quarter-on-Quarter Percentage Changes in Indices of Electricity Generation from 2007 to the second quarter of 2017. In subsequent sections of this report, emphasis will be given to the second quarter of 2017, as compared to the first quarter in 2017, and the corresponding quarter of 2016. This report uses 2013 as the base year.

Amongst its duties, Statistics Botswana is mandated to compile data on industrial production in Botswana, hence electricity indices are only confined to electricity generated locally. However, importation and distribution volumes, and their percentage changes will be included as well. This is intended to shed light as to whether Botswana is managing, over time, in generating enough electricity to meet her demand. The data used in this brief is sourced from the Botswana Power Corporation.

The release further shows changes in the volume of electricity generation in a given period against the base year (2013), and hence provides a reflection of the trend in the local electricity sector.

For more information, contact the Directorate of Stakeholder Relations at 3671300. All Statistics Botswana outputs/publications are available on the website at [www.statsbots.org.bw](http://www.statsbots.org.bw) and also at Statistics Botswana Information Resource Centre (Head-Office, Gaborone).

I sincerely thank all stakeholders involved in the formulation of this brief, for their continued support, as we strive to better serve users of our services.



---

**A. N. Majelantle**  
**Statistician General**  
**September 2017**

## 2.0 Summary of Findings of the Index of Electricity Generation (IEG)

All figures in this report are not seasonally adjusted.

**Table 1** below presents summarized key indicators of Electricity Generation from the first quarter of 2013 to the second quarter of 2017. During the second quarter of 2017, the Index of Electricity Generation (IEG) stood at **160.6**.

The Index of Electricity Generation during the second quarter of 2017 reflects an increase of 38.8 percent as compared to 115.7 recorded in the same quarter of 2016. The quarter-on-quarter comparison reflects a decrease of 3.4 percent from 166.1 recorded during the first quarter of 2017.

**Table 1: Selected Key Indicators for Electricity Generation 2013 First Quarter to 2017 Second Quarter**

Period	Index of the Physical Volume of Electricity Generation	Year-on-Year Percentage Change	Quarter-on-Quarter Percentage Change
2013_Q1	66.5	151.4	0.0
Q2	88.5	202.8	33.1
Q3	142.7	216.7	61.3
Q4	102.3	53.8	(28.3)
2014_Q1	75.5	13.4	(26.2)
Q2	172.6	95.1	128.6
Q3	194.2	36.1	12.6
Q4	119.6	16.9	(38.4)
2015_Q1	123.4	63.5	3.2
Q2	149.9	(13.2)	21.4
Q3	140.8	(27.5)	(6.0)
Q4	167.8	40.2	19.2
2016_Q1	105.5	(14.5)	(37.1)
Q2	115.7	(22.8)	9.7
Q3	157.3	11.7	36.0
Q4	186.3	11.1	18.4
2017_Q1	166.1	57.4	(10.8)
Q2	160.6	38.8	(3.4)

Note: 1. () Indicates negative figures

## 2.1 Electricity Generation

The physical volume of electricity generated locally is presented on **Table 2**. This table forms the basis for computation of indices of electricity generation as shown on **Table 3**, **Table 4** and **Table 5** respectively present the Annual and Quarterly percentage changes in the volume of electricity generation.

This Sub-Section discusses the volume of electricity generated locally as presented in **Table 2**. Calculation of percentage changes in the physical volume of production as well as in indices of the same physical volume of production yield the same figures. As a result it will be worth it to refer to tables that have figures of percentage changes in the Index of Electricity Generation as well (**Table 1** and **Table 4**) when going through this Sub-Section.

The quarter-on-quarter analysis shows that electricity generated during the second quarter of 2017 decreased by 3.4 percent (23,404 MWH) as compared to the previous quarter (first quarter of 2017). The decrease is partly attributed to the reduced use of emergency power generators. It can be observed from **Table 6** that there was an increase in imported electricity during the quarter, to offset the decrease in generation.

Comparison of the Physical Volume of Electricity Generation during the second quarter of 2017 to that recorded during the second quarter of 2016 shows an increase of 38.8 percent (188,859 MWH), from 486,188 MWH during the second quarter of 2016 to 675,047 MWH during the current quarter. This increase is attributed to improvement of operations at Morupule B power station as compared to the same period in 2016.

## 2.2 Imported Electricity

The discussions on this section are based on [Table 6](#) and [Table 7](#).

The volume of imported electricity stood at 224,318 MWH during the second quarter of 2017, giving a decrease of 47.8 percent (244,534 MWH) over the importation of 468,852 MWH during the second quarter of the previous year (2016).

The quarter-on-quarter comparison of imported electricity shows an increase of 18.7 percent (35,226 MWH), from 189,052 MWH during the first quarter of 2017 to 224,318 MWH during the period under review. This increase in imported electricity was necessitated by the decrease in generation as observed in the previous Sub-section. Botswana Power Corporation imported 24.9 percent (152,659 MWH) of its power needs during the period under review. The imports were predominantly from the Southern African Power Pool (68.1 percent), Eskom (20.2 percent), Namibia Power Corporation and Electricidade de Mozambique at 6.5 percent and 5.2 percent respectively.

## 2.3 Distribution of Electricity

Tables [8](#), [9](#) and [10](#) form the basis for discussion under this subsection.

[Table 8](#) shows the physical volume of electricity distributed from 2007 to the second quarter of 2017 while [Table 9](#) presents annual percentage changes in the volume of electricity distributed from 2007 to 2017 second quarter. These tables can also be used as guidance with regard to whether electricity distributed is improving, thereby addressing electricity shortages.

The year-on-year comparison shows that electricity distribution during the second quarter of 2017 decreased by 5.8 percent (55,675 MWH), from 955,040 MWH distributed during the same quarter in 2016 to 899,365 MWH during the current quarter.

When compared to the previous quarter (first quarter of 2017), electricity distributed during the second quarter of 2017 increased by 1.3 percent (11,862 MWH), from 887,503 MWH during the first quarter of 2017 to 899,365 MWH during the period under review.

Electricity generation given as a percentage of electricity distributed is of paramount importance in assessing whether local generation is improving overtime to reduce reliance on imported electricity. This information is displayed in [Table 10](#).

The table shows that electricity generated locally contributed 75.1 percent to electricity distributed during the second quarter of 2017, as compared to a contribution of 50.9 percent during the same period in 2016. Comparison with the first quarter of 2017 (78.7 percent) shows that the contribution of locally generated electricity declined during the current quarter.

The above figures show an increase of 24.2 percentage points for 2017 second quarter local generation contribution (75.1 percent) to electricity distributed when compared to the contribution for the corresponding quarter in 2016 (50.9 percent). The quarter-on-quarter comparison shows that the contribution of electricity generated to electricity distributed during the current quarter decreased by 3.6 percentage points when compared to the contribution of locally generated electricity during the first quarter of 2017 (78.7 percent).

**Table 2: Physical Volume of Electricity Generation (MWH): January 2007 – June 2017**

Period	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017*
Jan	56,291	53,926	33,922	44,442	39,195	26,574	110,960	137,802	158,907	206,381	245,598
Feb	56,291	49,732	37,890	38,641	32,847	16,938	80,410	77,067	180,520	127,975	216,264
Mar	57,521	51,072	46,413	55,401	20,079	67,761	88,358	102,377	179,400	109,272	236,589
Apr	56,127	49,313	38,987	40,872	29,593	34,069	94,011	151,675	195,568	112,765	195,073
May	49,358	61,558	49,464	41,943	15,762	39,826	140,454	252,235	206,905	179,837	205,705
Jun	49,358	58,334	20,132	30,676	23,045	48,928	137,414	321,453	227,503	193,586	273,639
Jul	61,290	54,588	38,103	33,156	27,814	81,013	158,120	318,627	240,314	213,841	-
Aug	62,544	47,278	48,795	39,594	24,536	11,205	223,420	296,036	177,052	219,402	-
Sep	52,235	39,890	36,522	35,177	21,063	97,177	218,222	201,802	174,617	228,002	-
Oct	41,183	42,689	32,361	37,746	27,166	77,236	32,183	71,243	301,913	299,002	-
Nov	38,502	40,367	26,443	20,894	23,044	113,384	203,228	244,723	213,798	213,303	-
Dec	44,046	38,538	34,885	38,430	19,231	89,101	194,717	186,915	189,490	269,893	-
Q1	170,103	154,730	118,225	138,485	92,120	111,274	279,728	317,245	518,828	443,628	698,451
Q2	154,844	169,206	108,584	113,491	68,400	122,823	371,879	725,363	629,976	486,188	675,047
Q3	176,068	141,756	123,420	107,927	73,413	189,395	599,762	816,465	591,983	661,245	-
Q4	123,731	121,594	93,689	97,070	69,441	279,721	430,128	502,881	705,201	783,141	-
<b>TOTAL</b>	<b>624,746</b>	<b>587,286</b>	<b>443,918</b>	<b>456,972</b>	<b>303,374</b>	<b>703,213</b>	<b>1,681,497</b>	<b>2,361,954</b>	<b>2,445,988</b>	<b>2,374,202</b>	<b>1,373,498</b>

**Note:**

1. – Indicates that data is not available
2. 2017\* Data is for the first two quarters

**Table 3: Indices of Physical Volume of Electricity Generation: January 2007 – June 2017**

Period	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017*
Jan	40.2	38.5	24.2	31.7	28.0	19.0	79.2	98.3	113.4	147.3	175.3
Feb	40.2	35.5	27.0	27.6	23.4	12.1	57.4	55.0	128.8	91.3	154.3
Mar	41.0	36.4	33.1	39.5	14.3	48.4	63.1	73.1	128.0	78.0	168.8
Apr	40.1	35.2	27.8	29.2	21.1	24.3	67.1	108.2	139.6	80.5	139.7
May	35.2	43.9	35.3	29.9	11.2	28.4	100.2	180.0	147.7	128.3	146.8
Jun	35.2	41.6	14.4	21.9	16.4	34.9	98.1	229.4	162.4	138.2	195.3
Jul	43.7	39.0	27.2	23.7	19.8	57.8	112.8	227.4	171.5	152.6	-
Aug	44.6	33.7	34.8	28.3	17.5	8.0	159.4	211.3	126.4	156.6	-
Sep	37.3	28.5	26.1	25.1	15.0	69.4	155.7	144.0	124.6	162.7	-
Oct	29.4	30.5	23.1	26.9	19.4	55.1	23.0	50.8	215.5	214.1	-
Nov	27.5	28.8	18.9	14.9	16.4	80.9	145.0	174.6	152.6	152.2	-
Dec	31.4	27.5	24.9	27.4	13.7	63.6	139.0	133.4	135.2	192.6	-
Q1	40.5	36.8	28.1	32.9	21.9	26.5	66.5	75.5	123.4	105.5	166.1
Q2	36.8	40.3	25.8	27.0	16.3	29.2	88.5	172.6	149.9	115.7	160.6
Q3	41.9	33.7	29.4	25.7	17.5	45.1	142.7	194.2	140.8	157.3	-
Q4	29.4	28.9	22.3	23.1	16.5	66.5	102.3	119.6	167.8	186.3	-
<b>Year</b>	<b>37.2</b>	<b>34.9</b>	<b>26.4</b>	<b>27.2</b>	<b>18.0</b>	<b>41.8</b>	<b>100.0</b>	<b>140.5</b>	<b>145.5</b>	<b>141.2</b>	<b>-</b>

**Note:**

1. – Indicates that data is not available
2. 2017\* Data is for the first two quarters



**Table 4: Annual Percentage Changes in the Indices of the Physical Volume of Electricity Generation:  
January 2007 – June 2017**

Period	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017*
Jan	(29.7)	(4.2)	(37.1)	31.0	(11.8)	(32.2)	317.5	24.2	15.3	29.9	19.0
Feb	(2.6)	(11.7)	(23.8)	2.0	(15.0)	(48.4)	374.7	(4.2)	134.2	(29.1)	69.0
Mar	(22.1)	(11.2)	(9.1)	19.4	(63.8)	237.5	30.4	15.9	75.2	(39.1)	116.5
Apr	(29.6)	(12.1)	(20.9)	4.8	(27.6)	15.1	175.9	61.3	28.9	(42.3)	73.5
May	(30.9)	24.7	(19.6)	(15.2)	(62.4)	152.7	252.7	79.6	(18.0)	(13.1)	14.4
Jun	(35.0)	18.2	(65.5)	52.4	(24.9)	112.3	180.9	133.9	(29.2)	(14.9)	41.4
Jul	(4.1)	(10.9)	(30.2)	(13.0)	(16.1)	191.3	95.2	101.5	(24.6)	(11.0)	-
Aug	0.3	(24.4)	3.2	(18.9)	(38.0)	(54.3)	1,893.9	32.5	(40.2)	23.9	-
Sep	2.3	(23.6)	(8.4)	(3.7)	(40.1)	361.4	124.6	(7.5)	(13.5)	30.6	-
Oct	(25.7)	3.7	(24.2)	16.6	(28.0)	184.3	(58.3)	121.4	323.8	(0.7)	-
Nov	(38.8)	4.8	(34.5)	(21.0)	10.3	392.0	79.2	20.4	(12.6)	(0.2)	-
Dec	(26.2)	(12.5)	(9.5)	10.2	(50.0)	363.3	118.5	(4.0)	1.4	42.4	-
Q1	(19.6)	(9.0)	(23.6)	17.1	(33.5)	20.8	151.4	13.4	63.5	(14.5)	57.4
Q2	(31.8)	9.3	(35.8)	4.5	(39.7)	79.6	202.8	95.1	(13.2)	(22.8)	38.8
Q3	(0.7)	(19.5)	(12.9)	(12.6)	(32.0)	158.0	216.7	94.2	(27.5)	11.7	-
Q4	(30.5)	(1.7)	(22.9)	3.6	(28.5)	302.8	53.8	16.9	40.2	11.1	-
<b>TOTAL</b>	<b>(21.3)</b>	<b>(6.0)</b>	<b>(24.4)</b>	<b>2.9</b>	<b>(33.6)</b>	<b>131.8</b>	<b>139.1</b>	<b>40.5</b>	<b>3.6</b>	<b>(2.9)</b>	

Note:

1. () Indicates negative figures
2. - Indicates that data is not available
3. 2017\* Data is for the first two quarters

**Table 5: Quarter-on-Quarter Percentage Changes: 2007 – June 2017**

Period	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017*
Q1	(4.5)	25.1	(2.8)	47.8	(5.1)	60.2	0.0	(26.2)	3.2	(37.1)	(10.8)
Q2	(9.0)	9.4	(8.2)	(18.0)	(25.7)	10.4	32.9	128.6	21.4	9.7	(3.4)
Q3	13.7	(16.4)	14.0	(4.8)	7.3	54.2	61.3	12.6	(6.0)	36.0	-
Q4	(29.7)	(14.2)	(24.1)	(10.1)	(5.4)	47.7	(28.3)	(38.4)	19.1	18.4	-

Note:

1. () Indicates negative figures
2. - Indicates that data is not available
3. 2017\* Data is for the first two quarters

**Table 6: Physical Volume of Imported Electricity (MWH): January 2007 – June 2017**

Period	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017*
Jan	206,867	210,395	201,994	236,110	243,795	272,338	193,786	192,251	184,564	140,172	57,679
Feb	206,795	213,161	188,165	219,836	229,027	274,079	185,022	216,031	113,430	166,303	56,951
Mar	215,819	227,289	203,111	250,756	269,723	249,777	216,621	207,923	153,098	217,261	74,422
Apr	192,109	209,664	205,743	234,466	256,694	253,390	206,965	162,767	129,605	196,075	88,783
May	212,303	214,604	223,094	280,917	277,975	271,135	169,159	85,246	129,487	138,677	92,379
Jun	204,987	216,285	267,277	275,405	279,130	275,063	151,442	33,474	117,155	134,100	43,156
Jul	197,880	245,954	270,073	276,165	275,387	245,151	161,866	39,365	99,695	110,932	-
Aug	200,591	246,899	220,243	259,190	268,187	296,226	82,084	48,497	132,541	119,340	-
Sep	206,166	233,921	247,990	248,636	256,871	200,082	78,365	132,060	132,191	103,083	-
Oct	227,681	247,374	263,707	266,963	264,952	240,631	123,785	266,785	59,516	57,653	-
Nov	231,581	239,255	262,763	271,584	274,539	209,811	123,785	96,415	115,763	116,517	-
Dec	215,786	223,135	238,572	268,052	272,789	212,114	128,060	147,112	160,652	54,373	-
Q1	629,482	650,845	593,269	706,702	742,544	796,194	595,429	616,206	451,092	523,736	189,052
Q2	609,399	640,554	696,114	790,788	813,799	799,587	527,566	281,487	376,248	468,852	224,318
Q3	604,636	726,774	738,305	783,991	800,444	741,459	322,315	219,922	364,427	333,355	-
Q4	675,048	709,764	765,042	806,599	812,281	662,556	375,630	510,311	335,931	228,543	-
<b>TOTAL</b>	<b>2,518,565</b>	<b>2,727,938</b>	<b>2,792,730</b>	<b>3,088,080</b>	<b>3,169,068</b>	<b>2,999,797</b>	<b>1,820,940</b>	<b>1,627,926</b>	<b>1,527,697</b>	<b>1,554,486</b>	<b>413,370</b>

**Note:**

1. – Indicates that data is not available
2. 2017\* Data is for the first two quarters

**Table 7: Annual Percentage Changes in the Physical Volume of Imported Electricity: January 2007 – June 2017**

Period	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017*
Jan	30.0	1.7	(4.0)	16.9	3.3	11.7	(28.8)	(0.8)	(4.0)	(24.1)	(58.9)
Feb	26.8	3.1	(11.7)	16.8	4.2	19.7	(32.5)	16.8	(47.5)	46.6	(65.8)
Mar	20.3	5.3	(10.6)	23.5	7.6	(7.4)	(13.3)	(4.0)	(26.4)	41.9	(65.7)
Apr	29.8	9.1	(1.9)	14.0	9.5	(1.3)	(18.3)	(21.4)	(20.4)	51.3	(54.7)
May	19.4	1.1	4.0	25.9	(1.0)	(2.5)	(37.6)	(49.6)	51.9	7.1	(33.4)
Jun	8.1	5.5	23.6	3.0	1.4	(1.5)	(44.9)	(77.9)	250.0	14.5	(67.8)
Jul	2.4	24.3	9.8	2.3	(0.3)	(11.0)	(34.0)	(75.7)	153.3	11.3	-
Aug	(0.9)	23.1	(10.8)	17.7	3.5	10.5	(72.3)	(40.9)	173.3	(10.0)	-
Sep	4.4	13.5	6.0	0.3	3.3	(22.1)	(60.8)	68.5	0.1	(22.0)	-
Oct	10.2	8.6	6.6	1.2	(0.8)	(9.2)	(48.6)	115.5	(77.7)	(3.1)	-
Nov	19.1	3.3	9.8	3.4	1.1	(23.6)	(41.0)	(22.1)	20.1	0.7	-
Dec	10.3	3.4	6.9	12.4	1.8	(22.2)	(39.6)	14.9	9.2	(66.2)	-
Q1	25.5	3.4	(8.8)	19.1	5.1	7.2	(25.2)	3.5	(26.8)	16.1	(63.9)
Q2	18.2	5.1	8.7	13.6	2.9	(1.7)	(34.0)	(46.6)	33.7	24.6	(52.2)
Q3	1.9	20.2	1.6	6.2	2.1	(7.4)	(56.5)	(31.8)	65.7	(8.5)	-
Q4	13.1	5.1	7.8	5.4	0.7	(18.4)	(43.3)	35.9	(34.2)	(32.0)	-
<b>TOTAL</b>	<b>14.1</b>	<b>8.3</b>	<b>2.4</b>	<b>10.6</b>	<b>2.6</b>	<b>(5.3)</b>	<b>(39.3)</b>	<b>(10.6)</b>	<b>(6.2)</b>	<b>1.8</b>	

**Note:**

1. () Indicates negative figures
2. – Indicates that data is not available
3. 2017\* Data is for the first two quarters

**Table 8: Physical Volume of Electricity Distribution (MWH): January 2007 – June 2017**

Period	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017*
Jan	263,158	264,322	235,916	280,552	282,990	298,912	304,746	330,053	343,471	346,553	303,277
Feb	263,086	262,893	226,055	258,477	261,873	291,017	265,432	293,098	293,950	294,278	273,215
Mar	273,340	278,361	249,524	306,157	289,801	317,538	304,979	310,300	332,498	326,533	311,011
April	248,236	258,978	244,730	275,338	286,287	287,459	300,976	314,442	325,173	308,840	284,486
May	261,661	276,163	272,558	322,860	293,737	310,961	309,613	337,481	336,392	318,514	298,084
Jun	254,346	274,619	287,410	306,081	302,176	323,990	288,856	354,927	344,658	327,686	316,795
Jul	259,169	300,542	308,176	309,321	303,201	326,165	319,986	357,992	340,009	324,773	-
Aug	263,134	294,177	269,037	298,784	292,723	307,431	305,504	344,533	309,593	338,742	-
Sep	258,402	273,811	284,512	283,813	277,934	297,258	296,587	333,861	306,808	331,085	-
Oct	268,864	290,063	296,067	304,709	292,118	317,867	155,968	338,027	361,429	357,598	-
Nov	270,083	279,622	289,206	292,478	297,584	323,195	327,013	341,138	329,561	329,820	-
Dec	259,832	261,673	273,458	306,482	292,020	301,215	322,777	334,027	350,142	324,266	-
Q1	799,584	805,576	711,494	845,186	834,665	907,468	875,157	933,451	969,920	967,364	887,503
Q2	764,243	809,759	804,698	904,279	882,199	922,411	899,445	1,006,850	1,006,224	955,040	899,365
Q3	780,705	868,531	861,725	891,918	873,857	930,854	922,077	1,036,387	956,410	994,600	-
Q4	798,779	831,358	858,731	903,669	881,721	942,277	805,758	1,013,192	1,041,132	1,011,684	-
Year	<b>3,143,311</b>	<b>3,315,223</b>	<b>3,236,648</b>	<b>3,545,052</b>	<b>3,472,442</b>	<b>3,703,010</b>	<b>3,502,437</b>	<b>3,989,880</b>	<b>3,973,685</b>	<b>3,928,688</b>	<b>1,786,868</b>

Note:

1. – Indicates that data is not available
2. 2017\* Data is for the first two quarters

**Table 9: Annual Percentage Changes for the Physical Volume of Electricity Distribution: January 2007 – June 2017**

Period	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017*
Jan	10.0	0.4	(10.7)	18.9	0.9	5.6	2.0	8.3	4.1	0.9	(12.5)
Feb	19.1	(0.1)	(14.0)	14.3	1.3	11.1	(8.8)	10.4	0.3	0.1	(7.2)
Mar	7.9	1.8	(10.4)	22.7	(5.3)	9.6	(4.0)	1.7	7.2	(1.8)	(4.8)
Apr	9.0	4.3	(5.5)	12.5	4.0	0.4	4.7	4.5	3.4	(5.0)	(7.9)
May	5.0	5.5	(1.3)	18.5	(9.0)	5.9	(0.4)	9.0	(0.3)	5.3	(6.4)
Jun	(4.2)	8.0	4.7	6.5	(1.3)	7.2	(10.8)	22.9	(2.9)	(4.9)	(3.3)
Jul	0.8	16.0	2.5	0.4	(2.0)	7.6	(1.9)	11.9	(5.0)	(4.5)	-
Aug	(0.7)	11.8	(8.5)	11.1	(2.0)	5.0	(0.6)	12.8	(10.1)	9.4	-
Sep	3.9	6.0	3.9	(0.2)	(2.1)	7.0	(0.2)	12.6	(8.1)	7.9	-
Oct	2.6	7.9	2.1	2.9	(4.1)	8.8	(50.9)	116.7	6.9	(1.1)	-
Nov	5.0	3.5	3.4	1.1	1.7	8.6	1.2	4.3	(3.4)	0.1	-
Dec	1.8	0.7	4.5	12.1	(4.7)	3.1	7.2	3.5	4.8	(7.4)	-
Q1	12.1	0.7	(11.7)	18.8	(1.2)	8.7	(3.6)	6.7	3.9	(0.3)	(8.3)
Q2	2.9	6.0	(0.6)	12.4	(2.4)	4.6	(2.5)	11.9	(0.1)	(5.1)	(5.8)
Q3	1.3	11.2	(0.8)	3.5	(2.0)	6.5	(0.9)	12.4	7.7	4.0	-
Q4	3.1	4.1	3.3	5.2	(2.4)	6.9	(14.5)	25.7	2.8	(2.8)	-
Year	<b>4.7</b>	<b>5.5</b>	<b>(2.4)</b>	<b>9.5</b>	<b>(2.0)</b>	<b>6.6</b>	<b>(5.4)</b>	<b>13.9</b>	<b>(0.4)</b>	<b>(1.1)</b>	

Note:

1. () Indicates negative figures
2. – Indicates that data is not available
3. 2017\* Data is for the first two quarters

**Table 10: Generation of Electricity (MWH) as a Percentage of Distribution  
2007 – June 2017**

Year \ Utility	Electricity Generation	Imported Electricity	Electricity Distribution	% Contribution of Generated Electricity to Distributed
2007	624,746	2,518,565	3,143,311	19.9
2008	587,286	2,727,938	3,315,223	17.7
2009	443,918	2,792,730	3,236,648	13.7
2010	456,972	3,088,080	3,545,052	12.9
2011	303,374	3,169,068	3,472,442	8.7
2012	703,213	2,999,797	3,703,010	19.0
2013	1,681,497	1,820,940	3,502,437	48.0
2014	2,361,954	1,627,925	3,989,879	59.2
2015	2,445,988	1,527,697	3,973,685	61.6
2016	2,374,202	1,554,486	3,928,688	60.4
2017*	1,373,498	413,370	1,786,868	78.7
2013_Q1	279,728	595,429	875,157	32.0
Q2	371,879	527,566	899,445	41.3
Q3	599,762	322,315	922,077	65.0
Q4	430,128	375,630	805,758	53.4
2014_Q1	317,245	616,206	933,451	34.0
Q2	725,363	281,487	1,006,850	72.0
Q3	816,465	219,922	1,036,387	78.8
Q4	502,881	510,311	1,013,192	49.6
2015_Q1	518,828	451,092	969,920	53.5
Q2	629,976	376,248	1,006,224	62.6
Q3	591,983	364,427	956,410	61.9
Q4	705,201	335,931	1,041,132	67.7
2016_Q1	443,628	523,736	967,364	45.9
Q2	486,188	468,852	955,040	50.9
Q3	661,245	333,355	994,600	66.5
Q4	783,141	228,543	1,011,684	77.4
2017_Q1	698,451	189,052	887,503	78.7
Q2	675,047	224,318	899,365	75.1

Note:

1. 2017\* Data is for the first two quarters

### 3.0 Technical Notes

#### 3.1 Background

The generation of electricity in Botswana started in 1985 with a coal fired thermal power station at Morupule operating at a capacity of 132 MWH. Prior to this period, most of Botswana's electricity was imported from South Africa's power utility, Eskom. In 2008 South Africa's electricity demand started to exceed its supply, resulting in the South African government restricting power exports. As a result, Botswana and the entire Southern African region experienced massive power shortages because of the reduced electricity exports from South Africa ([http://en.wikipedia.org/wiki/Energy\\_in\\_Botswana](http://en.wikipedia.org/wiki/Energy_in_Botswana)).

To avert the situation, Botswana Government opted for alternative ways of sourcing electricity for the country; hence the plan to increase local generation of electricity at Morupule Power Station. The Morupule Power A plant of capacity 132 MWH was augmented with Morupule Power B which is to have a capacity of 600 MWH upon completion (BPC Annual Report, 2010).

#### 3.2 Concepts and formula of the Index of Electricity Generation, Importation and Distribution

The Index of Electricity Generation is a Laspeyres index. The weighted average for electricity generation equals one because there are no various electricity products. The index is thus calculated using the formula;

$$I = \frac{\sum R_i * W_i}{\sum W_i}$$

Where;

I is the index

R is the electricity generation relative

W is the weight

The electricity generation relative for the quarter has been calculated by using the formula:

$$R_i = \frac{P_{ic}}{P_{io}} * 100$$

Where  $P_{ic}$  is the electricity generation of the current quarter and  $P_{io}$  is the generation of electricity of the base year.

The calculation of the monthly generation indices is based on the volume of electricity units produced.

#### 3.3 Base Year

The base year, also referred to as **reference period** used in this brief is 2013, which is set at 100. The selection of the reference period was informed by the availability of relevant data and synchronization of data with other sectors within the industry.

Published by

STATISTICS BOTSWANA  
Private Bag 0024, Gaborone  
Tel: 3671300 Fax: 3500156  
E-mail: [info@statsbots.org.bw](mailto:info@statsbots.org.bw)  
Website: [www.statsbots.org.bw](http://www.statsbots.org.bw)

**September 2017**

Copyright © Statistics Botswana 2017





# **ELECTRICITY GENERATION AND DISTRIBUTION**

Stats Brief, Quarter 2, 2017



**Contact Statistician:** Otsile Chelenyane  
Industry Statistics Unit  
**Email:** [ochelenyane@statsbots.org.bw](mailto:ochelenyane@statsbots.org.bw)  
**Tel:** (+267) 367 – 1300; Ext. 333



**STATISTICS BOTSWANA**