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ELECTRICITY GENERATION AND DISTRIBUTION

Stats Brief, Quarter 2, 2018



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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 2008 to the second quarter of 2018. In subsequent sections of this report, emphasis will be given to the second quarter of 2018, as compared to the first quarter in 2018, and the corresponding quarter in 2017. This report uses 2013 as the base year.

The Index of Electricity Generation (IEG) stood at 195.0 during the Second Quarter of 2018, giving an increase of 21.4 percent year-on-year change from the index of 160.6 during the same quarter of the previous. Comparison of the first two quarters of 2018 shows an increase of 20.1 percent quarter on quarter change from the index of 162.3 recorded during the first quarter of 2018 to 195.0 during the second quarter of the same year.

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 on 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 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.



Dr Burton Mguni
Statistician General
September 2018

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

All figures in this report are not seasonally adjusted.

The summary key indicators of Electricity Generation from the first quarter of 2013 to the second quarter of 2018, are presented in **Table 1**. During the second quarter of 2018, the Index of Electricity Generation (**IEG**) stood at 195.0, reflecting an increase of 21.4 percent compared to 160.6 recorded during the corresponding quarter of the previous year. The quarter-on-quarter comparison shows an increase of 20.1 percent, from 162.3 during the first quarter of 2018 to the current index of 195.0.

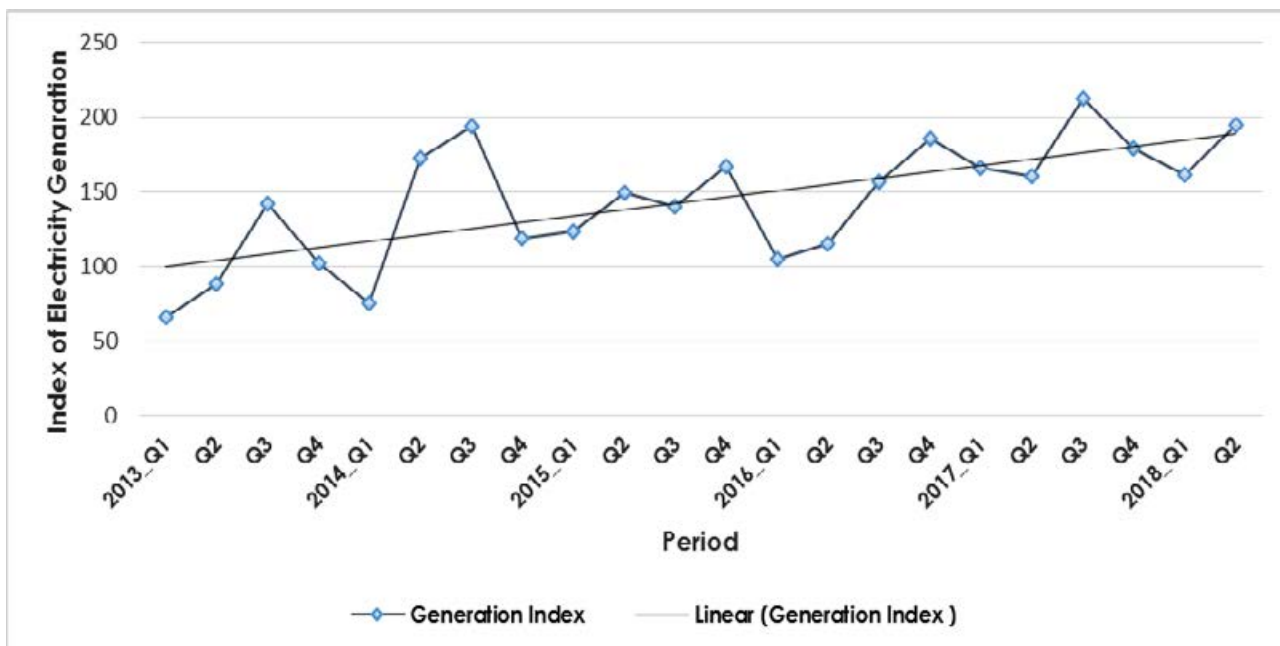
Table 1: Selected Key Indicators for Electricity Generation 2013 First Quarter to 2018 Second Quarter

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)
Q3	212.6	35.2	32.4
Q4	179.1	(3.9)	(15.8)
2018_Q1	162.3	(2.3)	(9.4)
Q2	195.0	21.4	20.1

Note: 1. () Indicates negative figures

Figure 1 presents the trend of the Index of Electricity Generation from the first quarter of 2013 to the second quarter 2018. Although it depicts fluctuations, local electricity generation has been growing steadily from the first quarter of 2013 to the current quarter, starting at an index of just around 60 and ending at just under 200 currently.

Figure 1: Index of Electricity Generation: 2013 First Quarter to 2018 Second Quarter



2.1 Electricity Generation

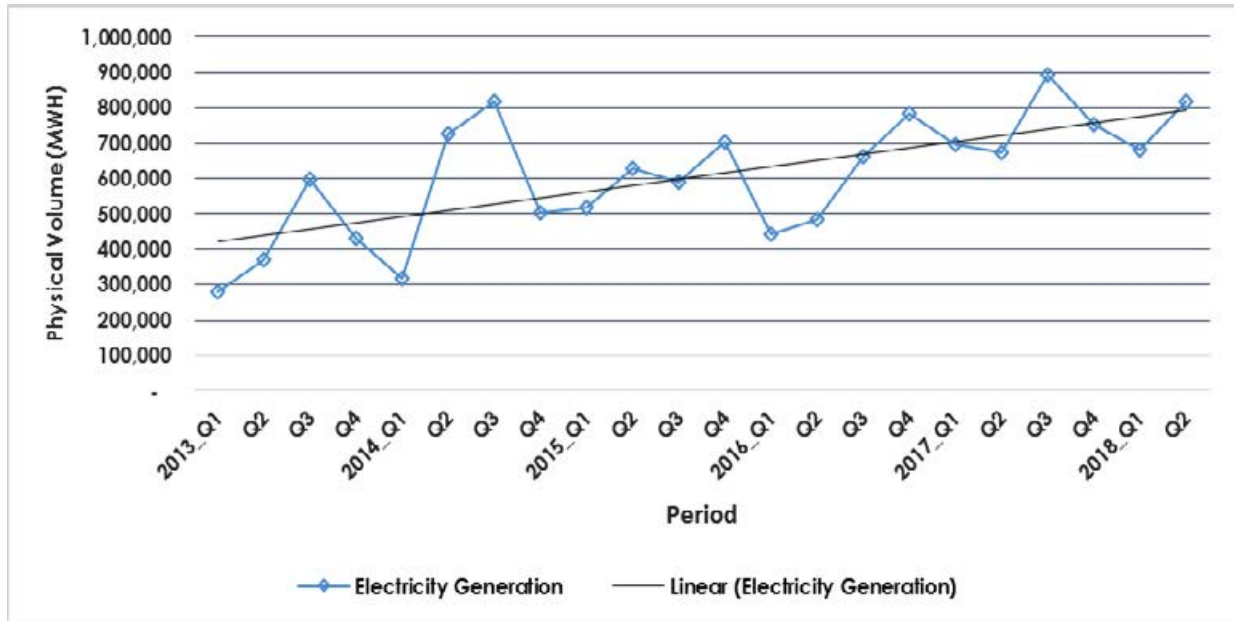
This Sub-Section discusses the physical volume of electricity generated locally as presented in **Table 2**. The table forms the basis for computation of indices of electricity generation in **Table 3**. Year-on-year and Quarter-on-quarter percentage changes in the volume of electricity generated are presented in **Table 4** and **Table 5**, covering the period 2008 to 2018.

The physical volume of electricity generated locally increased by 21.4 percent, from 675,047 MWH during the second quarter of 2017 to 819,755 MWH during the period under review.

The quarter-on-quarter perspective shows that local electricity generation increased by 20.1 percent from 682,380 during the first quarter of 2018, to 819,755 during the second quarter of the same year. This increase is primarily attributable to improved performance from both Morupule A and B power plants.

Morupule B power plant accounted for 97.1 percent (796,182 MWH) while Morupule A accounted for 2.9 percent (23,477 MWH) of electricity generated locally during 2018 second quarter. The Matshelagabedi Emergency Power Plant was minimally used during the month of June 2018, producing 96 MWH. The Orapa emergency power plant was not in operation for the second consecutive quarter during 2018. Due to high operating costs, there was minimal use of emergency power plants during the quarter under review.

Figure 2: Physical Volume of Generated Electricity (MWH): 2013 First Quarter to 2018 Second Quarter



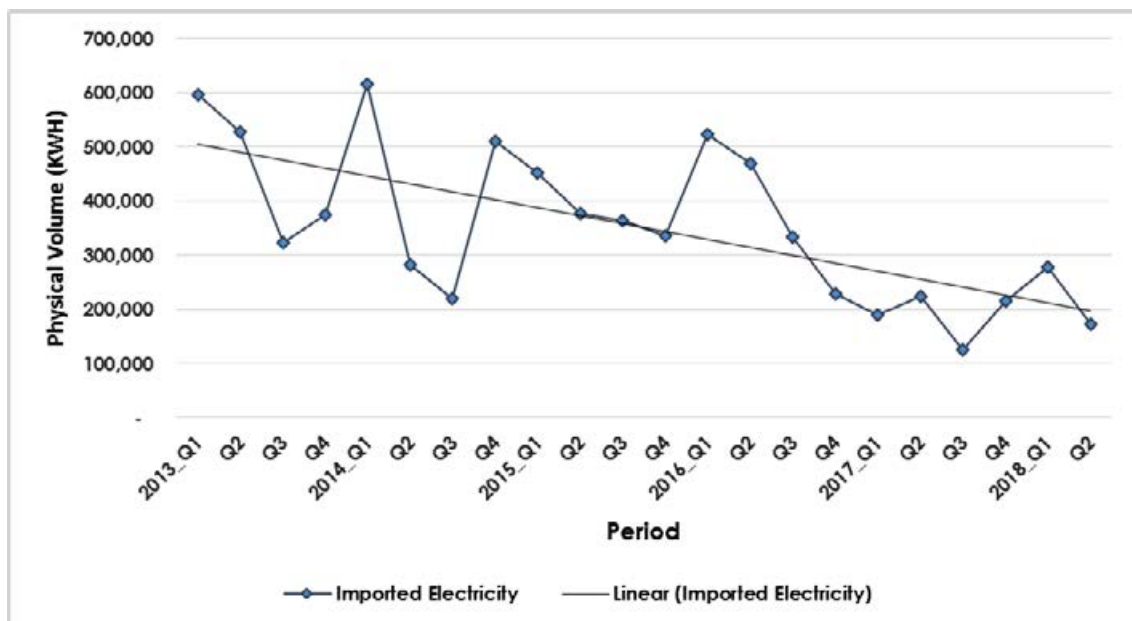
2.2 Imported Electricity

The discussions in this section are based on **Table 6** and **Table 7** as well as **Figure 3**.

The volume of imported electricity stood at 172,457 MWH during the second quarter of 2018, reflecting a decrease of 23.1 percent (51,861 MWH) from 224,318 MWH during the second quarter of the previous year (2017).

The quarter-on-quarter comparison shows a decrease of 37.8 percent (104,813 MWH), from 227,270 MWH of electricity imported during the first quarter of 2018 to 172,457 MWH during the period under review.

Figure 3: Physical Volume of Imported Electricity (MWH): 2013 First Quarter to 2018 Second Quarter



As illustrated on **Figure 3**, imported electricity has been declining from around 600,000 MWH recorded during the first quarter of 2013 to around 170,000 MWH during the quarter under review.

Botswana imported 17.4 percent (172,457 MWH) of total electricity distributed during the period under review. The Southern African Power Pool, Eskom, cross border markets and Namibia Power Corporation were the main sources of imported electricity.

2.3 Distribution of Electricity

The section combines the local generation and imported electricity that is available for distribution in Botswana. This does not take into account electricity used for auxiliary services, pumping, network losses as well as production of electricity through incineration of waste, guided by the International Recommendations for Industrial Statistics (**IRIS**) 2008. Therefore, **Tables 8, 9** and **10** form the basis for discussion under this subsection.

Table 8 shows the physical volume of electricity distributed from 2008 to the second quarter of 2018, while **Table 9** presents annual percentage changes in the volume of electricity distributed from 2008 to 2018 second quarter. These tables can also be used as guidance with regard to whether electricity distributed is improving, thereby addressing electricity shortages.

From a year-on-year perspective, the physical volume of electricity distributed shows an increase of 10.3 percent (92,847 MWH), from 899,365 MWH during the second quarter of 2017 to 992,212 MWH during the quarter under review.

Similarly, the quarter-on-quarter comparison of distributed electricity gives an increase of 3.4 percent (32,562 MWH), from 959,650 MWH during the first quarter of 2018 to 992,212 MWH during the current quarter.

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**.

It can be observed from **Table 10** that electricity generated locally contributed 82.6 percent to electricity distributed during the second quarter of 2018, as compared to a contribution of 75.1 percent during the same quarter in 2017. This shows an increase of 7.5 percentage points when making comparison between the two quarters.

On the other hand, a quarter-on-quarter comparison shows that the contribution of electricity generated to electricity distributed during the current quarter increased by 11.5 percentage points compared to the 71.1 percent contribution made by locally generated electricity during the first quarter of 2018.

Table 2: Physical Volume of Electricity Generation (MWH): January 2008 – June 2018

Period	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018*
Jan	53,926	33,922	44,442	39,195	26,574	110,960	137,802	158,907	206,381	245,598	209,333
Feb	49,732	37,890	38,641	32,847	16,938	80,410	77,067	180,520	127,975	216,264	227,955
Mar	51,072	46,413	55,401	20,079	67,761	88,358	102,377	179,400	109,272	236,589	245,092
Apr	49,313	38,987	40,872	29,593	34,069	94,011	151,675	195,568	112,765	195,073	210,965
May	61,558	49,464	41,943	15,762	39,826	140,454	252,235	206,905	179,837	205,705	310,500
Jun	58,334	20,132	30,676	23,045	48,928	137,414	321,453	227,503	193,586	273,639	298,291
Jul	54,588	38,103	33,156	27,814	81,013	158,120	318,627	240,314	213,841	311,655	-
Aug	47,278	48,795	39,594	24,536	11,205	223,420	296,036	177,052	219,402	315,552	-
Sep	39,890	36,522	35,177	21,063	97,177	218,222	201,802	174,617	228,002	266,623	-
Oct	42,689	32,361	37,746	27,166	77,236	32,183	71,243	301,913	299,002	234,090	-
Nov	40,367	26,443	20,894	23,044	113,384	203,228	244,723	213,798	213,303	296,547	-
Dec	38,538	34,885	38,430	19,231	89,101	194,717	186,915	189,490	269,893	222,240	-
Q1	154,730	118,225	138,485	92,120	111,274	279,728	317,245	518,828	443,628	698,451	682,380
Q2	169,206	108,584	113,491	68,400	122,823	371,879	725,363	629,976	486,188	675,047	819,755
Q3	141,756	123,420	107,927	73,413	189,395	599,762	816,465	591,983	661,245	893,831	-
Q4	121,594	93,689	97,070	69,441	279,721	430,128	502,881	705,201	783,141	752,887	-
TOTAL	587,286	443,918	456,972	303,374	703,213	1,681,497	2,361,954	2,445,988	2,374,202	3,020,206	1,502,135

Note:

1. – Indicates that data is not available

2. 2018* Data is based on first 2 quarters of 2018.

Table 3: Indices of Physical Volume of Electricity Generation: January 2008 – June 2018

Period	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018*
Jan	38.5	24.2	31.7	28.0	19.0	79.2	98.3	113.4	147.3	175.3	149.4
Feb	35.5	27.0	27.6	23.4	12.1	57.4	55.0	128.8	91.3	154.3	162.7
Mar	36.4	33.1	39.5	14.3	48.4	63.1	73.1	128.0	78.0	168.8	174.9
Apr	35.2	27.8	29.2	21.1	24.3	67.1	108.2	139.6	80.5	139.7	150.6
May	43.9	35.3	29.9	11.2	28.4	100.2	180.0	147.7	128.3	146.8	221.6
Jun	41.6	14.4	21.9	16.4	34.9	98.1	229.4	162.4	138.2	195.3	212.9
Jul	39.0	27.2	23.7	19.8	57.8	112.8	227.4	171.5	152.6	222.4	-
Aug	33.7	34.8	28.3	17.5	8.0	159.4	211.3	126.4	156.6	225.2	-
Sep	28.5	26.1	25.1	15.0	69.4	155.7	144.0	124.6	162.7	190.3	-
Oct	30.5	23.1	26.9	19.4	55.1	23.0	50.8	215.5	214.1	167.1	-
Nov	28.8	18.9	14.9	16.4	80.9	145.0	174.6	152.6	152.2	211.6	-
Dec	27.5	24.9	27.4	13.7	63.6	139.0	133.4	135.2	192.6	158.6	-
Q1	36.8	28.1	32.9	21.9	26.5	66.5	75.5	123.4	105.5	166.1	162.3
Q2	40.3	25.8	27.0	16.3	29.2	88.5	172.6	149.9	115.7	160.6	195.0
Q3	33.7	29.4	25.7	17.5	45.1	142.7	194.2	140.8	157.3	212.6	-
Q4	28.9	22.3	23.1	16.5	66.5	102.3	119.6	167.8	186.3	179.1	-
Year	34.9	26.4	27.2	18.0	41.8	100.0	140.5	145.5	141.2	179.6	-

Note:

1. – Indicates that data is not available

2. 2018* Data is based on first 2 quarters of 2018.

Table 4: Annual Percentage Changes in the Indices of the Physical Volume of Electricity Generation: January 2008 – June 2018

Period	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018*
Jan	(4.2)	(37.1)	31.0	(11.8)	(32.2)	317.5	24.2	15.3	29.9	19.0	(14.8)
Feb	(11.7)	(23.8)	2.0	(15.0)	(48.4)	374.7	(4.2)	134.2	(29.1)	69.0	5.4
Mar	(11.2)	(9.1)	19.4	(63.8)	237.5	30.4	15.9	75.2	(39.1)	116.5	3.6
Apr	(12.1)	(20.9)	4.8	(27.6)	15.1	175.9	61.3	28.9	(42.3)	73.5	7.8
May	24.7	(19.6)	(15.2)	(62.4)	152.7	252.7	79.6	(18.0)	(13.1)	14.4	50.9
Jun	18.2	(65.5)	52.4	(24.9)	112.3	180.9	133.9	(29.2)	(14.9)	41.4	9.0
Jul	(10.9)	(30.2)	(13.0)	(16.1)	191.3	95.2	101.5	(24.6)	(11.0)	45.7	-
Aug	(24.4)	3.2	(18.9)	(38.0)	(54.3)	1,893.9	32.5	(40.2)	23.9	43.8	-
Sep	(23.6)	(8.4)	(3.7)	(40.1)	361.4	124.6	(7.5)	(13.5)	30.6	16.9	-
Oct	3.7	(24.2)	16.6	(28.0)	184.3	(58.3)	121.4	323.8	(0.7)	(22.0)	-
Nov	4.8	(34.5)	(21.0)	10.3	392.0	79.2	20.4	(12.6)	(0.2)	39.0	-
Dec	(12.5)	(9.5)	10.2	(50.0)	363.3	118.5	(4.0)	1.4	42.4	(17.7)	-
Q1	(9.0)	(23.6)	17.1	(33.5)	20.8	151.4	13.4	63.5	(14.5)	57.4	(2.3)
Q2	9.3	(35.8)	4.5	(39.7)	79.6	202.8	95.1	(13.2)	(22.8)	38.8	21.4
Q3	(19.5)	(12.9)	(12.6)	(32.0)	158.0	216.7	36.1	(27.5)	11.7	35.2	-
Q4	(1.7)	(22.9)	3.6	(28.5)	302.8	53.8	16.9	40.2	11.1	(3.9)	-
TOTAL	(6.0)	(24.4)	2.9	(33.6)	131.8	139.1	40.5	3.6	(2.9)	27.2	-

Note:

1. () Denotes negative numbers

2. - Indicates that data is not available

3. 2018* Data is based on first 2 quarters of 2018.

Table 5: Quarter-on-Quarter Percentage Changes: 2008 – June 2018

Period	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018*
Q1	25.1	(2.8)	47.8	(5.1)	60.2	0.0	(26.2)	3.2	(37.1)	(10.8)	(9.4)
Q2	9.4	(8.2)	(18.0)	(25.7)	10.4	32.9	128.6	21.4	9.7	(3.4)	20.1
Q3	(16.4)	14.0	(4.8)	7.3	54.2	61.3	12.6	(6.0)	36.0	32.4	-
Q4	(14.2)	(24.1)	(10.1)	(5.4)	47.7	(28.3)	(38.4)	19.1	18.4	(15.8)	-

Note:

1. () Denotes negative numbers

2. - Indicates that data is not available

3. 2018* Data is based on first 2 quarters of 2018.

Table 6: Physical Volume of Imported Electricity (MWH): January 2008 – June 2018

Period	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018*
Jan	210,395	201,994	236,110	243,795	272,338	193,786	192,251	184,564	140,172	57,679	124,148
Feb	213,161	188,165	219,836	229,027	274,079	185,022	216,031	113,430	166,303	56,951	77,257
Mar	227,289	203,111	250,756	269,723	249,777	216,621	207,923	153,098	217,261	74,422	75,865
Apr	209,664	205,743	234,466	256,694	253,390	206,965	162,767	129,605	196,075	88,783	94,226
May	214,604	223,094	280,917	277,975	271,135	169,159	85,246	129,487	138,677	92,379	39,052
Jun	216,285	267,277	275,405	279,130	275,063	151,442	33,474	117,155	134,100	43,156	39,179
Jul	245,954	270,073	276,165	275,387	245,151	161,866	39,365	99,695	110,932	34,746	-
Aug	246,899	220,243	259,190	268,187	296,226	82,084	48,497	132,541	119,340	35,332	-
Sep	233,921	247,990	248,636	256,871	200,082	78,365	132,060	132,191	103,083	54,534	-
Oct	247,374	263,707	266,963	264,952	240,631	123,785	266,785	59,516	57,653	83,734	-
Nov	239,255	262,763	271,584	274,539	209,811	123,785	96,415	115,763	116,517	36,094	-
Dec	223,135	238,572	268,052	272,789	212,114	128,060	147,112	160,652	54,373	94,307	-
Q1	650,845	593,269	706,702	742,544	796,194	595,429	616,206	451,092	523,736	189,052	277,270
Q2	640,554	696,114	790,788	813,799	799,587	527,566	281,487	376,248	468,852	224,318	172,457
Q3	726,774	738,305	783,991	800,444	741,459	322,315	219,922	364,427	333,355	124,612	-
Q4	709,764	765,042	806,599	812,281	662,556	375,630	510,311	335,931	228,543	214,135	-
TOTAL	2,727,938	2,792,730	3,088,080	3,169,068	2,999,797	1,820,940	1,627,926	1,527,697	1,554,486	752,117	449,727

Note:

1. – Indicates that data is not available

2. 2018* Data is based on first 2 quarters of 2018.

Table 7: Annual Percentage Changes in the Physical Volume of Imported Electricity: January 2008 – June 2018

Period	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018*
Jan	1.7	(4.0)	16.9	3.3	11.7	(28.8)	(0.8)	(4.0)	(24.1)	(58.9)	115.2
Feb	3.1	(11.7)	16.8	4.2	19.7	(32.5)	16.8	(47.5)	46.6	(65.8)	35.7
Mar	5.3	(10.6)	23.5	7.6	(7.4)	(13.3)	(4.0)	(26.4)	41.9	(65.7)	1.9
Apr	9.1	(1.9)	14.0	9.5	(1.3)	(18.3)	(21.4)	(20.4)	51.3	(54.7)	6.1
May	1.1	4.0	25.9	(1.0)	(2.5)	(37.6)	(49.6)	51.9	7.1	(33.4)	(57.7)
Jun	5.5	23.6	3.0	1.4	(1.5)	(44.9)	(77.9)	250.0	14.5	(67.8)	(9.2)
Jul	24.3	9.8	2.3	(0.3)	(11.0)	(34.0)	(75.7)	153.3	11.3	(68.7)	-
Aug	23.1	(10.8)	17.7	3.5	10.5	(72.3)	(40.9)	173.3	(10.0)	(70.4)	-
Sep	13.5	6.0	0.3	3.3	(22.1)	(60.8)	68.5	0.1	(22.0)	(47.1)	-
Oct	8.6	6.6	1.2	(0.8)	(9.2)	(48.6)	115.5	(77.7)	(3.1)	45.2	-
Nov	3.3	9.8	3.4	1.1	(23.6)	(41.0)	(22.1)	20.1	0.7	(69.0)	-
Dec	3.4	6.9	12.4	1.8	(22.2)	(39.6)	14.9	9.2	(66.2)	73.4	-
Q1	3.4	(8.8)	19.1	5.1	7.2	(25.2)	3.5	(26.8)	16.1	(63.9)	46.7
Q2	5.1	8.7	13.6	2.9	(1.7)	(34.0)	(46.6)	33.7	24.6	(52.2)	(23.1)
Q3	20.2	1.6	6.2	2.1	(7.4)	(56.5)	(31.8)	65.7	(8.5)	(62.6)	-
Q4	5.1	7.8	5.4	0.7	(18.4)	(43.3)	35.9	(34.2)	(32.0)	(6.3)	-
TOTAL	8.3	2.4	10.6	2.6	(5.3)	(39.3)	(10.6)	(6.2)	1.8	(51.6)	-

Note:

1. () Denotes negative numbers

2. – Indicates that data is not available

3. 2018* Data is based on first 2 quarters of 2018.

Table 8: Physical Volume of Electricity Distribution (MWH): January 2008 – June 2018

Period	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018*
Jan	264,322	235,916	280,552	282,990	298,912	304,746	330,053	343,471	346,553	303,277	333,481
Feb	262,893	226,055	258,477	261,873	291,017	265,432	293,098	293,950	294,278	273,215	305,212
Mar	278,361	249,524	306,157	289,801	317,538	304,979	310,300	332,498	326,533	311,011	320,957
April	258,978	244,730	275,338	286,287	287,459	300,976	314,442	325,173	308,840	284,486	305,191
May	276,163	272,558	322,860	293,737	310,961	309,613	337,481	336,392	318,514	298,084	349,552
Jun	274,619	287,410	306,081	302,176	323,990	288,856	354,927	344,658	327,686	316,795	337,470
Jul	300,542	308,176	309,321	303,201	326,165	319,986	357,992	340,009	324,773	346,401	-
Aug	294,177	269,037	298,784	292,723	307,431	305,504	344,533	309,593	338,742	350,884	-
Sep	273,811	284,512	283,813	277,934	297,258	296,587	333,861	306,808	331,085	321,157	-
Oct	290,063	296,067	304,709	292,118	317,867	155,968	338,027	361,429	357,598	317,824	-
Nov	279,622	289,206	292,478	297,584	323,195	327,013	341,138	329,561	329,820	332,641	-
Dec	261,673	273,458	306,482	292,020	301,215	322,777	334,027	350,142	324,266	316,547	-
Q1	805,576	711,494	845,186	834,665	907,468	875,157	933,451	969,920	967,364	887,503	959,650
Q2	809,759	804,698	904,279	882,199	922,411	899,445	1,006,850	1,006,224	955,040	899,365	992,212
Q3	868,531	861,725	891,918	873,857	930,854	922,077	1,036,387	956,410	994,600	1,018,442	-
Q4	831,358	858,731	903,669	881,721	942,277	805,758	1,013,192	1,041,132	1,011,684	967,012	-
Year	3,315,223	3,236,648	3,545,052	3,472,442	3,703,010	3,502,437	3,989,880	3,973,685	3,928,688	3,772,322	1,951,862

Note:

1. - Indicates that data is not available
2. 2018* Data is based on first 2 quarters of 2018.

Table 9: Annual Percentage Changes for the Physical Volume of Electricity Distribution: January 2008 – June 2018

Period	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018*
Jan	0.4	(10.7)	18.9	0.9	5.6	2.0	8.3	4.1	0.9	(12.5)	10.0
Feb	(0.1)	(14.0)	14.3	1.3	11.1	(8.8)	10.4	0.3	0.1	(7.2)	11.7
Mar	1.8	(10.4)	22.7	(5.3)	9.6	(4.0)	1.7	7.2	(1.8)	(4.8)	3.2
Apr	4.3	(5.5)	12.5	4.0	0.4	4.7	4.5	3.4	(5.0)	(7.9)	5.0
May	5.5	(1.3)	18.5	(9.0)	5.9	(0.4)	9.0	(0.3)	5.3	(6.4)	15.0
Jun	8.0	4.7	6.5	(1.3)	7.2	(10.8)	22.9	(2.9)	(4.9)	(3.3)	4.4
Jul	16.0	2.5	0.4	(2.0)	7.6	(1.9)	11.9	(5.0)	(4.5)	6.7	-
Aug	11.8	(8.5)	11.1	(2.0)	5.0	(0.6)	12.8	(10.1)	9.4	3.6	-
Sep	6.0	3.9	(0.2)	(2.1)	7.0	(0.2)	12.6	(8.1)	7.9	(3.0)	-
Oct	7.9	2.1	2.9	(4.1)	8.8	(50.9)	116.7	6.9	(1.1)	(11.1)	-
Nov	3.5	3.4	1.1	1.7	8.6	1.2	4.3	(3.4)	0.1	0.9	-
Dec	0.7	4.5	12.1	(4.7)	3.1	7.2	3.5	4.8	(7.4)	(2.4)	-
Q1	0.7	(11.7)	18.8	(1.2)	8.7	(3.6)	6.7	3.9	(0.3)	(8.3)	8.1
Q2	6.0	(0.6)	12.4	(2.4)	4.6	(2.5)	11.9	(0.1)	(5.1)	(5.8)	10.3
Q3	11.2	(0.8)	3.5	(2.0)	6.5	(0.9)	12.4	7.7	4.0	2.4	-
Q4	4.1	3.3	5.2	(2.4)	6.9	(14.5)	25.7	2.8	(2.8)	(4.4)	-
Year	5.5	(2.4)	9.5	(2.0)	6.6	(5.4)	13.9	(0.4)	(1.1)	(4.0)	-

Note:

1. () Denotes negative numbers
2. - Indicates that data is not available
3. 2018* Data is based on first 2 quarters of 2018.

**Table 10: Generation of Electricity (MWH) as a Percentage of Distribution
2008 – June 2018**

Year \ Utility	Electricity Generation	Imported Electricity	Electricity Distribution	% Contribution of Generated Electricity to Distributed
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	3,020,206	752,117	3,772,322	80.1
2018*	1,502,135	449,727	1,951,862	77.0
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
Q3	893,831	124,612	1,018,442	87.8
Q4	752,877	214,135	967,012	77.9
2018_Q1	682,380	277,270	959,650	71.1
Q2	819,755	172,457	992,212	82.6

Note:

1. 2018* Data is based on first 2 quarters of 2018.

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).

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:

$$R_i = \frac{P_{ic}}{P_{i0}} * 100$$

Where P_{ic} is the electricity generation of the current quarter and P_{i0} 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.



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