



**STATISTICS IN ELECTRICITY SUB-SECTOR AS OF
DECEMBER OF THE YEAR 2019**

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1. ELECTRICITY PRODUCTION

1.1. Domestic generation, regional shared and imports

Table 1: Trends of domestic generation and imported electricity (kWh) from Q1 to Q4 2019

Plant Name	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Total
Cymbili MHPP	241,903	273,716	194,980	396,353	1,106,952
Gaseke MHPP	159,189	310,258	151,580	337,705	958,732
Gashashi MHPP	170,483	187,024	139,910	240,975	738,392
Giciye I HPP	2,915,985	4,232,091	2,582,129	4,442,612	14,172,817
Giciye II HPP	3,028,357	4,507,427	2,525,636	4,867,193	14,928,613
Gigawatt Global	3,387,290	3,194,160	3,439,040	3,117,360	13,137,850
Gihira MHPP	2,239,733	2,764,089	1,887,512	2,812,600	9,703,934
Gisenyi MHPP	2,633,429	2,477,082	1,982,713	2,843,749	9,936,973
Gishoma PPP	-	118,470	15,643,100	3,378,925	19,140,495
Jabana 1 TPP	6,565,100	6,489,700	6,494,180	3,698,600	23,247,580
Jabana 2 TPP	30,434,880	25,550,592	32,054,432	18,057,504	106,097,408
Jali Solar	26,025	21,367	34,423	27,994	109,810
Keya HPP	2,329,464	2,796,613	1,822,749	2,997,040	9,945,866
Kivuwatt	53,869,181	49,645,120	55,471,920	52,101,380	211,087,601
Mazimeru MHPP	539,664	381,260	400,677	717,262	2,038,864
Mukungwa 1 HPP	10,171,334	8,804,049	10,108,783	7,031,411	36,115,577
Mukungwa 2 HPP	2,866,353	3,258,557	3,427,594	3,402,545	12,955,049
Murunda MHPP	157,569	161,817	118,620	139,330	577,336
Musarara MHPP	612,852	829,850	510,735	831,662	2,785,099
Mutobo MHPP	328,255	343,781	320,539	365,896	1,358,471
Nasho Solar PP	1,093,554	1,086,787	1,274,082	1,103,151	4,557,574
Nkora MHPP	582,872	627,392	372,499	776,966	2,359,729
Nshili MHPP	336,120	487,920	253,129	88,424	1,165,593
Ntaruka HPP	3,144,000	2,837,000	3,091,000	2,046,000	11,118,000
Nyabahanga MHPP	10,594	203,816	145,819	190,758	550,987
Nyabarongo 1 HPP	29,097,900	36,136,500	17,306,500	43,213,500	125,754,400
Rubagabaga	-	-	71,645	276,427	348,072
Rugezi HPP	1,715,337	3,411,063	2,177,637	4,654,579	11,958,616
Rukarara 1 HPP	9,443,050	11,270,698	6,611,665	13,630,837	40,956,250
Rukarara 2 HPP	2,878,073	3,511,114	2,349,742	3,737,521	12,476,450
Rukarara V Mushishito	-	956,346	1,440,325	2,932,195	5,328,866
Rwaza Muko HPP	2,726,915	3,029,605	3,032,161	2,801,167	11,589,848
So Energy Birembo	136,528	932,522	2,905,083	503,542	4,477,675
So Energy Masoro	2,560,039	4,613,156	8,612,184	2,562,814	18,348,193
So Energy Mukungwa	8,568,854	10,417,148	13,640,007	6,002,813	38,628,822
Total domestic generation	184,970,882	195,868,089	202,594,730	196,328,791	779,762,492
Regional shared HPP	15,520,000	13,536,000	15,990,000	16,896,000	61,942,000
Imports	9,164,020	8,426,716	7,786,789	8,892,542	34,270,066
Total generation	209,654,902	217,830,805	226,371,518	222,117,333	875,974,558

Source: EUCL-REG, December 2019

During the year 2019, the total electricity generated by domestic power plants was 779,762,492 kWh, 61,942,000 kWh from Regional Shared plants whereas the 34,270,066 kWh are the imports. The total electricity generated in 2019 was 875,974,558 kWh.

1.2. Electricity generation mix

The electricity produced in Rwanda is generated using different sources namely hydro, methane gas, peat, solar and heavy and light fuel oil used to run generators while another portion is imported.

Table 2: Trends of electricity generation mix from Q1 to Q4 2019

Electricity generation mix	Q1 2019	Q2 2019	Q3 2019	Q4 2019	2019
Hydro	37.4%	43.1%	27.8%	47.6%	38.9%
Methane Gas	25.7%	22.8%	24.5%	23.5%	24.1%
Peat	0.0%	0.1%	6.9%	1.5%	2.2%
Solar	2.1%	2.0%	2.1%	1.9%	2.0%
Thermal	23.0%	22.0%	28.1%	13.9%	21.8%
Regional shared Plants	7.4%	6.2%	7.1%	7.6%	7.1%
Imports	4.4%	3.9%	3.4%	4.0%	3.9%

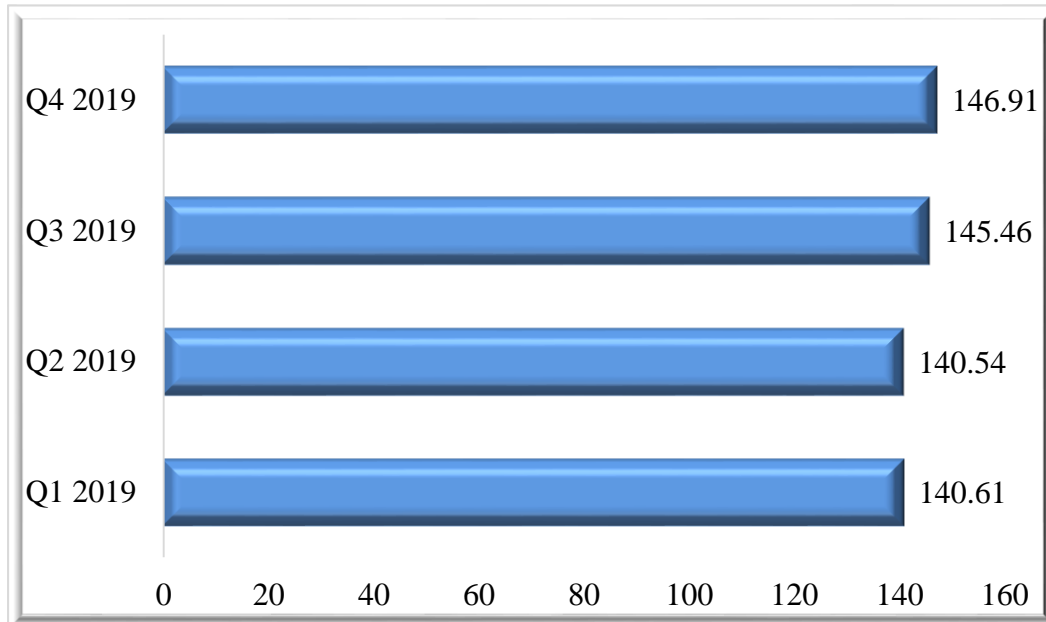
Source: EUCL-REG, December 2019

The 38.9% of the electricity supplied during 2019 is generated from hydro, 24.11% from Methane Gas, 21.8% from Thermal (fuel oil), 2.2% from Peat, 2.0 from Solar energy and 11.0% is the Regional shared and Imports. In aggregate, the 51.9% of electricity supplied is renewable resources whereas 48.1% is the electricity generated from non-renewables.

1.3. System peak demand

The system peak demand increased by 4.5% from the first quarter to the fourth quarter of the year 2019 and the peak quarter over the year 2019 was quarter four with a peak demand of 146.91 MW as presented in the Figure 1.

Figure 1: Trends of system peak demand (MW) from Q1 to Q4 2019



Source: EUCL-REG, December 2019

2. EXPORTED ELECTRICITY

Figure 2: Trends of exported electricity (kWh) from Q1 to Q4 2019



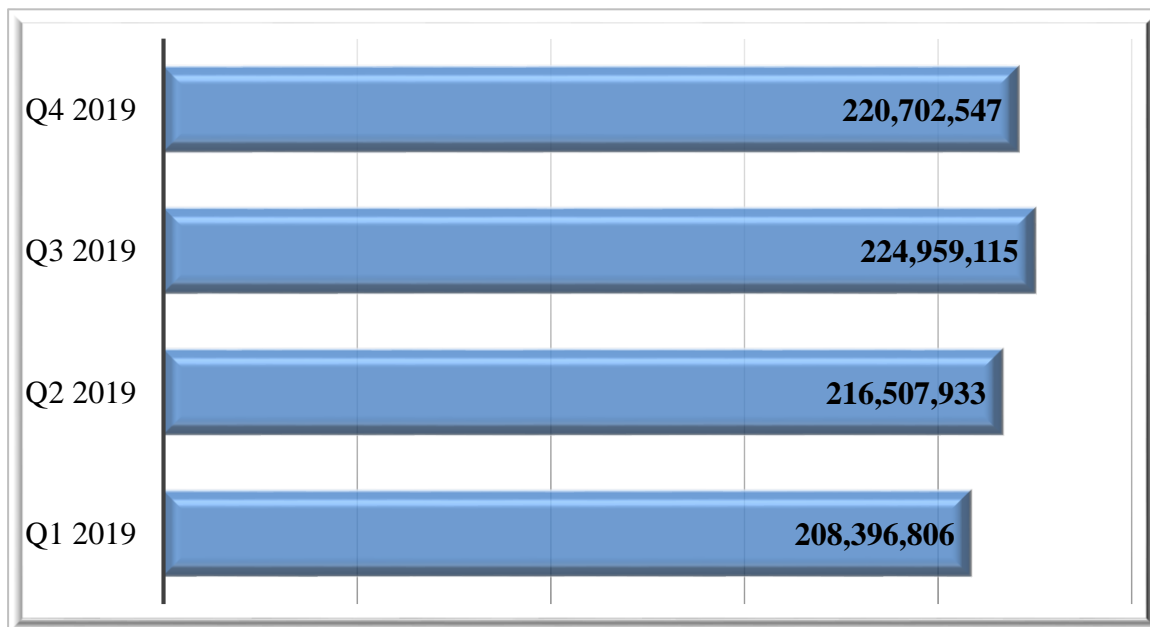
Source: EUCL-REG, December 2019

The exported electricity increased by 12.5% from the first to the fourth quarter of the year 2019. The total exported electricity during the year 2019 was 5,408,158 kWh.

3. ELECTRICITY SUPPLIED TO THE NATIONAL GRID

Below is shown the quantity of electricity supplied in each quarter, within the county excluding the exported electricity.

Figure 3: Trends of electricity supplied to the national grid (kWh) from Q1 to Q4 2019



Source: EUCL-REG, December 2019

The electricity supplied to the national grid by the utility increased by 5.9% from the first to the fourth quarter of the year 2019. During the year 2019, the total electricity supplied to the national grid was 870,566,401 kWh.

4. ELECTRICITY SOLD DOMESTICALLY

The electricity sold includes both the pre-paid and post-paid electricity.

Table 3: Trends of electricity sold (kWh) per type of customer from Q1 to Q4 2019

Customer category	Q1 2019	Q2 2019	Q3 2019	Q4 2019	2019
Domestic/residential	29,686,710	30,972,362	31,982,512	32,891,403	125,532,986
Non-residential	50,798,449	55,002,998	54,590,603	53,757,749	214,149,799
Water pumping stations	6,521,576	6,975,541	8,000,101	8,273,593	29,770,811
Water treatment plants	6,553,022	6,969,641	7,417,982	6,623,521	27,564,166
Broadcasters	937,844	1,022,149	1,042,998	1,078,968	4,081,960
Health facilities	3,466,259	3,811,755	3,880,482	3,745,970	14,904,466
Telecom towers	10,266,658	11,303,691	11,637,095	11,848,043	45,055,486
Hotels	9,944,903	10,128,194	10,327,865	10,671,686	41,072,647
Industries	49,096,709	50,973,987	52,150,745	49,102,016	201,323,456
Total	167,272,131	177,160,318	181,030,381	177,992,948	703,455,777

Source: EUCL-REG, December 2019

The 30.4% of the total electricity sold by Utility during the year 2019 were sold to non-residential customers, 28.6% to industries, and 17.9% to residential customers and the remaining 23.1% were sold to water pumping stations, water treatment plants, telecom towers, health facilities, broadcasters, and hotels.

5. ELECTRICITY END USER TARIFF

The electricity tariff that was charged to the electricity customers during the year 2019 was structured as follow:

5.1. Tariffs for non-industrial customer category

Table 4: Tariffs for non-industrial customer category

Category	Consumption block per month (kWh)	Frw/kWh (VAT & Regulatory fee exclusive)
Residential]0-15]	89
]15-50]	182
	>50	210
Non-residential]0-100]	204
	>100	222
Telecom towers	All	185
Water Treatment Plants & Water Pumping Stations	All	126
Hotels	All	126
Health Facilities	All	192
Broadcasters	All	184

Source: Board Decision N°002/BD/ER-/RURA/2018

5.2. Tariffs for industrial customer category

Industrial customers are those registered as industries and are categorized based on their level of consumption as defined below:

Table 5: Categorization of industrial customers

Industry category	Annual consumption (kWh/year)
Small	≤ 22,000
Medium]22,000- 660,000]
Large	>660,000

Source: Board Decision N°002/BD/ER-/RURA/2018

Table 6: Tariffs for industrial customers with Smart Meter

Category	Energy charge (Frw/kWh)	Charges VAT and regulatory fee exclusive			
		Maximum demand charge (Frw/kVA/month)			Customer service charge (Frw/Month)
		Peak (05:00PM-11:59PM)	Shoulder (08:00AM 04:59 PM)	Off-Peak (00:00AM 07:59AM)	
Small	110	11,017	4,008	1,691	10,000
Medium	87	10,514	3,588	1,292	10,000
Large	80	7,184	2,004	886	10,000

Source: Board Decision N°002/BD/ER-/RURA/2018

Table 7: Flat rates for industrial customers without smart meters

Industrial customers without smart meters are charged at flat rates until the smart meters are installed in their facilities in order to apply the time of use tariff as described in table below:

Industry category	Flat rate (Frw/kWh, VAT & Regulatory fee exclusive)
Small	126
Medium	98
Large	97

Source: Board Decision N°002/BD/ER-/RURA/2018

6. LICENSES AND PERMITS IN ELECTRICITY

During the quarter under review, there were thirty-one (31) electricity generation licensees, one (1) transmission license, one (1) distribution license, one (1) domestic trade license, one (1) international trade license, and seventy-one (71) accredited electrical practitioners.

Table 8: Number of licensed operators

Category of license	Number of licensees
Generation (IPPs)	31
Transmission	1
Distribution	1
Domestic Trade	1
International trade	1
Accredited electrical practitioners	71

Source: RURA, 2019