



ANNUAL REPORT
For Rwanda Energy Group, of the Year 2019-2020

August 2020



FOREWORD

It is with great pleasure that the Rwanda Energy Group Ltd presents its Annual Report for the fiscal year 2019/2020. This report highlights the REG's key achievements in its strategic objectives including among others electricity generation, electricity transmission and distribution, electricity access, operations and maintenance and others. During the Fiscal Year 2019/2020, concerted efforts were directed towards developing and providing reliable and affordable energy to ensure adequate service delivery and sustainable development.

In view of this, REG Ltd continues to strategize on how to achieve the targets of 2024 for increasing electricity access to 100% of all Rwandan households, reduction of biomass energy use to 42% as well as increasing Rwanda's electricity generation capacity to 556MW. As a result, households' connections to electricity reached 55.41% by end June 2020 from 51% of June 2019, and the total installed power generation capacity reached 228.418MW from 225.8MW achieved in June 2019.

The Annual Report of REG includes the performance of REG's subsidiary companies, the Energy Utility Corporation Limited (EUCL) and the Energy Development Corporation Limited (EDCL). This report is part of the external dissemination of our commitment to transparency and open communication to all our stakeholders, as well as to the wider public interested in our activities.

Please, enjoy reading this report and get updates and richness of the energy sector. We also hope it is an opportunity for our valued stakeholders to know our leading-edge operations, services and values.

Ron Weiss



Ron Weiss
Chief Executive Officer

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EXECUTIVE SUMMARY

This report highlights the key achievements realized in the Fiscal Year 2019/20 by the Rwanda Energy Group Ltd, through its subsidiaries EDCL and EUCL, against targets that were agreed in alignment with national strategic documents such as Vision2020, NST1, REG Imihigo and other high-level decisions as well as the REG strategic plan.

- In power generation, the total installed capacity increased from 225.8MW to 228.418MW. The additional capacity is from the upgrade of Agatobwe micro hydropower plant (0.2 to 0.39MW), commissioning of Kigasa (0.272MW), Nyirantaruko (1.84MW) and Mukungu (0.016MW) micro hydropower plants.
- The highest annual peak demand was 151.02MW observed in February 2020, compared to 140.61MW observed in February 2019. The demand growth this year was 2.8% while it was 5.9% for the fiscal year 2018/2019.
- The total transmission network increased from 1,166.62km recorded by the end of June 2019 to 1,285.62km following the commissioning of 119km of a 220/110kV power transmission line project “Mamba-Rwabusoro-Bugesera-Gahanga”.
- The distribution network increased with a total of 412km of medium voltage lines and 856km of low voltage lines, bringing the total distribution network to 25,314.7km, of which 9,205.8km of medium voltage and 16,108.9km of low voltage.
- By the end of June 2020, a total of 134,356 customers were connected to the National grid of which the productive users were 471. In addition to this, a total of 62,306 households were connected to off-grid electricity. By the end of June 2020, the electricity access rate had increased from 51% as reported by the end June 2019 to 55.41%.
- In this reporting financial year, REG/EDCL had opted to focus on awareness raising among the citizens on the use of modern cooking technologies transitioning from traditional cooking fuels and a total of 31 awareness campaign sessions were conducted on Radio and TV.
- On the side of operations, power system performance and reliability remained generally stable even though the number of system blackouts increased from 3 to 5 blackouts, 3 of which happened during the COVID 19 lockdown in March 2020.
- Countrywide, the distribution network performance was improved compared to the previous year given that the System Average Interruption Duration Index (SAIDI) reduced from 25.6 hours per year to 17.2 hours per year and the average number of interruptions that a customer experienced (SAIFI) reduced from 49 times per year to 37 times per year. The SAIDI and SAIFI in Kigali were respectively 1.420 hours and 2.816 times per year.
- The average total power losses for this financial year (technical and non-technical) increased to 19.41% from 19.39% of the previous year, but the recorded monetary loss reduced from Rwf 457,190,086 to Rwf 444,517,432.
- The total electricity billed for both prepayment and post payment customers, including exports to Uganda through Cyanika-Kisoro, increased to 702,597,060.14kWh from 687,808,690kWh of last year and respectively the bill increased to Rwf 137,912,290,995 down from Rwf 127,324,985,297. The total collection on prepayment, post payment and works are 96% of total collections equivalent to Rwf 132,360,211,127 in 2019-2020 compared to Rwf 128,976,077,530 in 2018-2019.

1. INTRODUCTION

The Rwanda Energy Group (REG) with its subsidiary companies, Energy Development Corporation Limited (EDCL) and Energy Utility Corporation Limited (EUCL), was incorporated in July 2014 as part of the wider Government reform programme for the energy and water sectors in Rwanda. The overarching objective of the reform was to ensure that the energy sector is expanding the electricity generation capacity efficiently to meet the growing demand in the country.

The REG Holding therefore has the corporate mandate to provide overall coordination of utility operations and energy investment and development plans without operational responsibilities, while EUCL is to ensure efficiency in utility operations and end-users service delivery and EDCL is to ensure timely implementation and cost-efficient development of energy projects.

REG's overall goal is to achieve fast electrification levels for industry and household usage based on a sustainable and affordable tariff. In its strategic plan (2017 – 2024), REG has articulated the following ten industry and institutional focused objectives to guide the day to day operations.

1. **Generation:** Build a balanced and cost optimized Generation mix sufficient to meet growing Demand.
2. **Transmission:** Plan and Build infrastructure to ensure timely alignment of current and future Generation with National Demand
3. **Distribution:** Develop and Operate an Optimized Distribution Network to enhance Utility efficiency and reliability of power supply.
4. **Electricity Access:** Achieve 100% National Access to Electricity in 5 years (by 2024). using Grid and Off-grid Solutions
5. **Tariff evolution:** Develop a clear tariff trajectory with clear milestones based on effective engagement with IPPs, financiers and other stakeholders to achieve affordable tariff.
6. **Operation & Maintenance:** Ensure optimized plant and network operations for excellent service reliability, with most economical plan.
7. **Corporate Governance:** Structure and equip REG to competently implement strategy;
8. **Communication Strategy:** Build an awareness of REG's products and services to enlist commitment of stakeholders to the vision and mission;
9. **Capacity Building:** Enhance staff's professional and technical capacity to support REG consistently deliver on its mission;
10. **Commercial strategy:** To serve our customers and ensure their satisfaction through our culture of excellence.

This report highlights key achievements registered in the period between July 2019 and June 2020 in alignment with key sector strategic objectives outlined above, set in line with the National strategic documents such as Vision 2020, NST1, REG Strategic Plan 2017 – 2024 (REGSP) and other sector priorities as adopted in different national fora such as National Leadership Retreat (NLR), National Umushyikirano Council (NUC), Cabinet decisions and other high level commitments. The purpose of this report is therefore to provide information that depicts Rwanda Energy Group performance to the public, development partners and other stakeholders.

More specifically, every year REG signs a performance contract, Imihigo, with MININFRA for the implementation of key projects geared towards meeting the short and medium term sector targets as

set in the aforementioned strategic documents. For the FY2019/2020, REG signed to deliver on 16 outputs as detailed in *annex 1* of this report. The outputs were grouped under 5 key outcomes which are:

1. Increased electricity generation installed capacity from 224.58 MW to 227.58MW by June 2020
2. Improved power transmission and distribution network for reliability of power supply
3. Increased access to electricity from 51% to 56% by end of June 2020
4. Improved transmission and distribution capabilities and availability of the network
5. Enhanced energy use efficiency

By the end of June 2020, 15 outputs were on track, while 1 output was behind schedule. The output behind schedule was the construction of Rukarara V/ Mushishito which was supposed to be completed at 70%, but was only completed at 45.7%.

In addition to this, REG signed for Joint Imihigo with 4 outputs grouped under 2 outcomes which are:

1. Increased Households access to electricity from 51% to 56%
2. Reduced biomass usage for cooking

The four outputs for Joint Imihigo were already part of the overall Imihigo and they were all on track by the end of June 2020. Detailed implementation progress for Joint Imihigo is provided in *annex 2*.

2. THE ACHIEVEMENTS FOR THE FISCAL YEAR 2019/2020

Access to safe, reliable, affordable and cost-effective energy infrastructure is essential to achieve the levels of growth defined under the National Strategy for Transformation (NST1) and Vision 2020. It is planned that by 2024, universal access to electricity shall be attained at 100% (52% on-grid and 48% off-grid).

In order to attain the desired development impact of the above programs and other strategic interventions, the REG implemented different projects in the 2019/2020 and key achievements are provided in the following paragraphs. The status below, therefore, provides an insight of how the energy sector performed towards its ambitious targets.

2.1. Power generation

By end of June 2020, the total installed capacity increased from 225.8MW to 228.418MW. The additional capacity is from the upgrade of Agatobwe micro hydropower plant (0.2 to 0.39MW), commissioning of Kigasa (0.272MW), Nyirantaruko (1.84MW) and Mukungu (0.016MW) micro hydropower plants. The independent power producers have 48% share of the total installed capacity, while the Government of Rwanda represented by REG Ltd has 43.4% and the importation is 7.9%. The project of Rukarara V/ Mushishito hydropower plant which was supposed to be commissioned 3MW was delayed because of COVID 19 because equipment and engineers who

were expected to come from abroad did not come due to the lockdown. It is planned to be commissioned before the end of this financial year 2020/21.

The highest annual peak demand was 151.02MW observed in February 2020, compared to 140.61MW observed in February 2019. The demand growth this year was 2.8% while it was 5.9% for the fiscal year 2018/2019.

Year/ month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Max. peak
2019/20							145.1	145.5	144.2	146.9	143.9	142.3	
	142.7	151	148.4	125.6	136.3	138.4							151

Table 1: Monthly peak trend

Installed generation capacity by source

Hydropower and thermal power continue to dominate with the highest shares of the installed generation capacity of 94.678MW equivalent to 41.45% and 58.8MW equivalent to 25.74% respectively, while solar power contributes the least as per the table and graph below:

Technology	Installed capacity (MW)	%
Hydro	94.678	41.45%
Thermal	58.800	25.74%
Methane Gas	29.790	13.04%
Import	18.100	7.92%
Solar	12.050	5.28%
Peat	15.000	6.57%
Total	228.418	100.00%

Table 2: Installed capacity contribution by sources

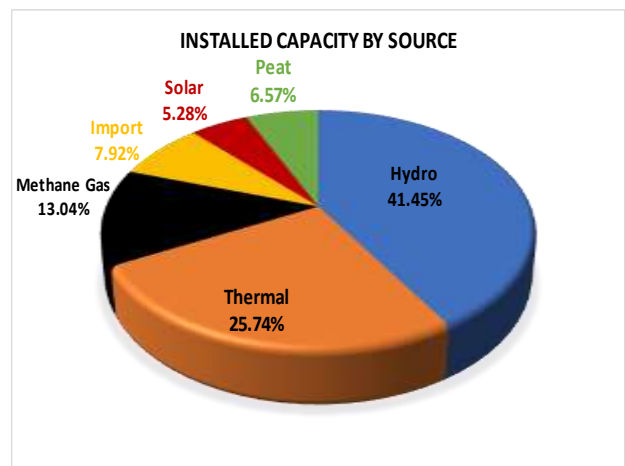


Figure 1: Installed capacity Contribution by source

Total energy generated

The corresponding energy generated by hydropower increased from 337.52MWh to 387MWh and it improved its share in the energy mix from 39.5% of last year to 44.4% this year. On the other hand, energy generated from thermal power plants reduced from 158.66MWh to 135.9MWh and the corresponding share in the energy mix reduced from 18.6% to 15.6%. The contribution of methane gas, solar power and imports did not vary much whereby energy produced from methane gas moved from 213.14MWh (25%) to 213.6 MWh (24.5%), solar moved from 18.06 MWh (2.1%) to 17.7MWh (2%) and imports from 30.2MWh (3.5%) to 31.95MWh (3.7%) respectively. On the other hand, there was noticeable variation in the energy generated from peat to power and regional shared power plants whereby energy from peat decreased from 30.99MWh (3.6%) to 19.0MWh (2.2%), while energy from regional shared plants increased from 63.88MWh (7.5%) to 69.2MWh (7.9%). The graph below illustrates the changes in the energy mix.

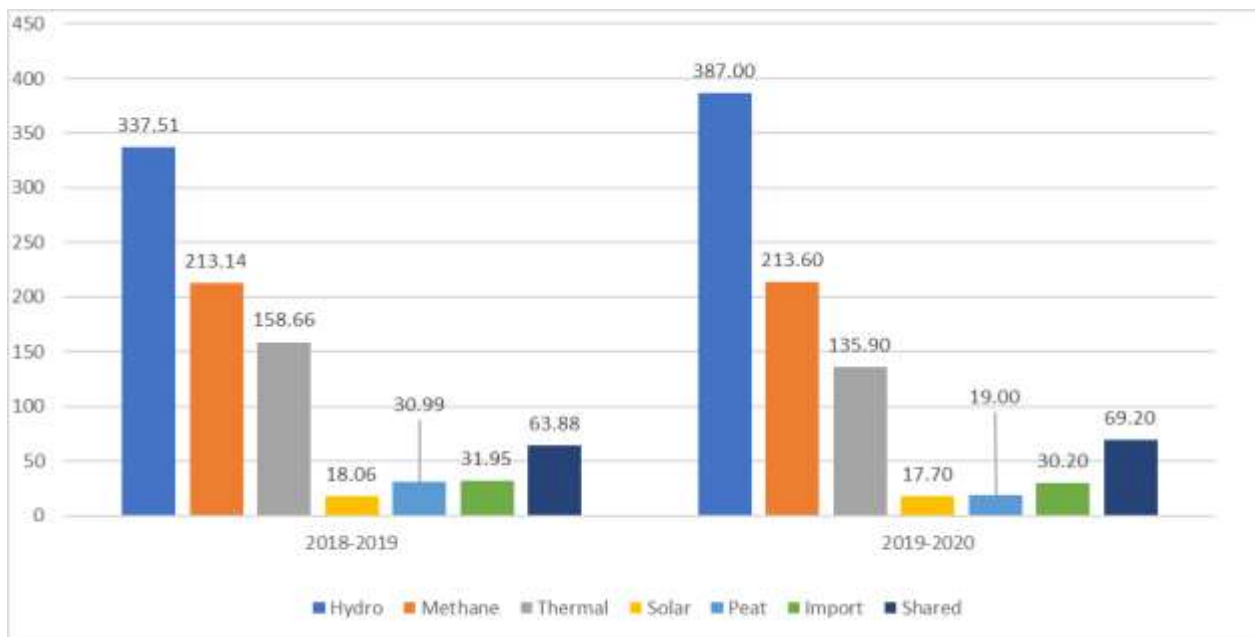


Figure 2: Energy Mix (in MWh)

The Least Cost Power Development Plan

The least cost power development plan was revised and updated in February and June 2020. The purpose of the plan is to have a systematic development of the Rwanda Generation Resources prioritizing the least cost options, to ensure that the tariff affordability objectives are being optimized. The key updates this year were:

- Hydro pumped storage maximum potential was capped at 80 MW.
- Natural gas installed capacity potential was left open for deeper analysis on how much would be selected to be constructed.
- Free selection of micro hydros that defaulted to the planned commercial operational date.
- Determination of least-cost addition of Shema II_(assumed same tariff as Shema I)
- Re-alignment of COD of delayed projects

2.2. Electricity transmission

The total transmission network increased from 1,166.62km recorded by the end of June 2019 to 1,285.62km following the commissioning of 119km of a 220/110kV power transmission line project “Mamba-Rwabusoro-Bugesera-Gahanga”. The project is meant to evacuate power from Hakan’s peat-to-power plant constructed in Gisagara District and to be commissioned before the end of 2020. The figure below was taken at Gahanga substation.



Figure 3: Gahanga substation, completed along Mamba-Rwabusoro-Bugesera-Gahanga line

The 220kV single circuit Rusumo-Bugesera-Shango transmission line and Rusumo substation registered significant delays mainly due to tower redesigning and the effect of COVID 19 whereby equipment and engineers that were expected to come from abroad did not come due to the lockdown. Other key transmission lines projects under construction include the 220kV Rwanda-Burundi transmission line and associated substations as well as the 110kV single circuit Mukungwa-Nyabihu transmission line and associated substations.

To improve stability of the network, EUCL and EDCL respectively installed capacitor banks at Jabana, Gikondo and Birembo substations and a shunt reactor at Shango substation.

The Transmission Plan

The transmission network development plan was revised and updated in February and June 2020 and the key updates incorporated are the following:

- The planning horizon goes until 2028
- The planning methodology is based on target of 52% on-grid and 48% off-grid instead of 48% and 22% earlier used
- 110/30kV Bugesera International Airport 1 (BIA1) that will connect 110kV Cut-In, Cut-Out line to the Airport.
- 110/30kV Bugesera International Airport 2 (BIA2) that will connect 110kV Bugesera Industrial Park-BIA line to the Airport.
- 110/30kV Rubavu temporary substation is considered
- 220kV Kirehe cut-in,cut-out line is included
- 110kV Kirehe-Rwinkwavu line is considered instead of 110kV Nyamugari-Kirehe-Rwinkwavu since Nyamugari Substation project is no longer considered.
- The roadmap for development of power supply to industrial parks

To standardize the transmission network works and equipment, the REG reticulation standard of electricity transmission network was also developed and published in February 2020.

2.3. Electricity distribution

About 12 years ago, the Government of Rwanda established the Electricity Access Rollout Program (EARP) to distribute power from the transmission nodes to the end-users, whilst bridging the rural-urban electricity access divide. This year, the distribution network was extended with a total of 412km of medium voltage lines and 856km of low voltage lines, bringing the total distribution network to 25,314.7km up from 24,046.7km reported last year at the end of June 2019. The respective total lengths for medium and low voltage networks are now 9,205.8km and 16,108.9km. A detailed list of completed projects for new extensions of the distribution network is provided in *annex 3*.

In addition to the network extension projects implemented by EDCL through the EARP, EUCL also completed the following rehabilitation and distribution network strengthening projects:

- Rehabilitation of 9 remaining of the 11 switching substations in Kigali (Belle vie, Caisse hypothécaire, Ministère, Maternité, Ponts et Chaussés, Magasin Central, Boulevard central, extension of Gikondo, extension of KBC and NAHV). Remera 1 and Nyarutarama 1 cabins were completed at the end of June 2019.
- Reinforcement of Kigali distribution network through the overhead line Gikondo-KBC
- Reinforcement of Kigali distribution network through the installation of MV underground cables within Kigali City

The Distribution Plan

In February and June 2020, the distribution network development plan was revised and updated mainly to include the following:

- Zoning of the distribution network by considering other sectorial master plans such as urban planning and development master plans, mineral processing plants, irrigation facilities, water treatment facilities, Special Economic Zones (SEZ), etc
- Proposed projects for network reinforcement by considering planned substations and their respective proposed feeders
- Proposed projects for upgrade of conductor sizes
- Rehabilitation of switching cabins in secondary cities & Kigali City
- Upgrade of single-phase to three-phase network
- Network cleaning in Arc GIS Software for existing and ongoing MV lines

2.4. Electricity access

The Government has committed to meet universal access to electricity at 100%, with an estimated 3.7 million households to be connected by the year 2024. By the end of June 2020, a total of 134,356 new customers were connected to the National grid of which the productive users were 471. This brought the cumulative number of customers connected to the grid to 1,092,081

(1,089,185 on prepaid and 2,896 on post-paid) which is equivalent to 40.31% access rate computed on a total of 2,709,000 households reported by the NISR (EICV, 5).

Out of the 471 productive users connected this year, 147 were sector and cell offices, 91 were health facilities, 42 secondary schools, 23 water pumping stations and the remaining included among others markets, factories and telecom towers. Though the performance of REG in implementing its Imihigo signed with MININFRA for grid access was 161.87%, the total number of new connections reduced by 12,296, when compared to last year, mainly due to limited budget and the impact of COVID19 lockdown that slowed down new connections in March and April 2020. The figure below illustrates the new connections made this year at each REG branch. A detailed list of new grid connections done per district this year is provided in annex 5.

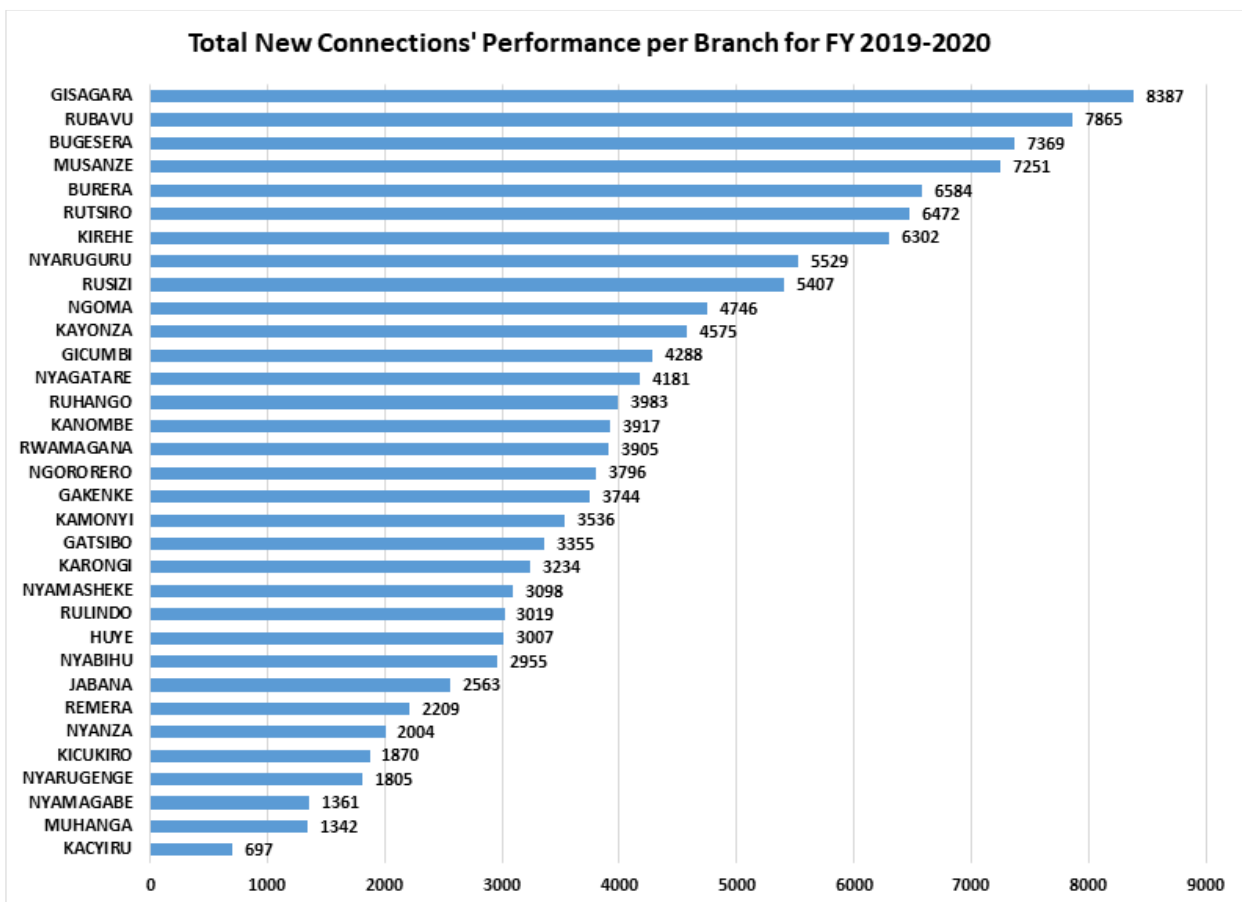


Figure 4: Annual grid connections by district

In addition to this, a total of 62,306 households were connected to off-grid electricity bringing the cumulative total to 404,982 households equivalent to access rate of 15.1%. These off-grid connections are mainly rooftop solar panels and they are installed by the independent private companies on a willing-buyer-willing-seller basis. More than 24,000 solar panels were installed on houses in Nyaruguru district at the beginning of the fiscal year. The figure below shows the evolution of off-grid installations along the year.

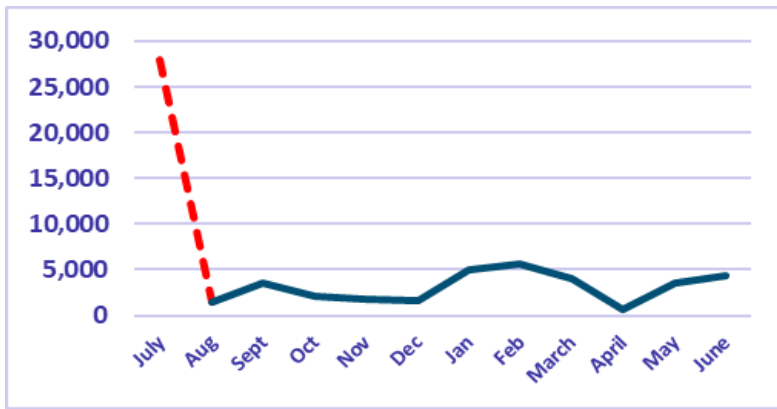


Figure 5: Evolution of monthly off-grid connections

By the end of June 2020, the electricity access rate countrywide had increased from 51% reported by the end June 2019 to 55.41%.

The Access Plan

In February and June 2020, the access plan was revised and updated mainly to include the following:

- Technical aspects for the implementation of the national electrification strategy (NES),
- The description of proposed on-grid and off-grid networks along with the required investment
- The impact of available funds from development patterns on universal access by 2024

2.5. Operations and maintenance

On the side of operations, power system performance and reliability remained generally stable even though the number of system blackouts increased from 3 to 5 blackouts, 3 of which happened during the COVID 19 lockdown in March 2020. The 3 blackouts were mainly as a result of a very low network load during the lockdown, which in turn caused system voltages to rise to unacceptable ranges. The chart below illustrates how the trend of blackouts occurrence over the last 5 years:

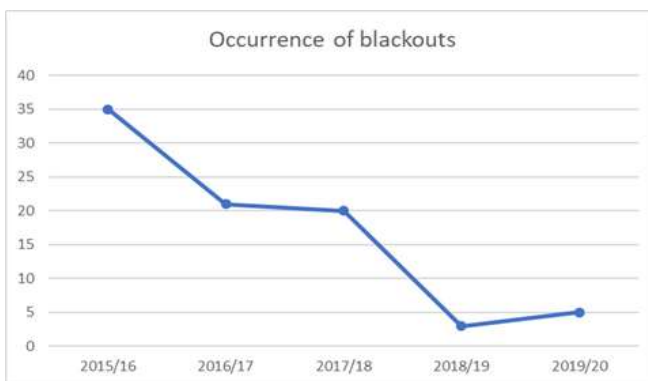


Figure 6: Total blackouts trend

The recorded transmission network availability in the year of 2019/2020 was 99.37% as shown in the table below:

Q1		Outage duration in min		166	
		Days	Hours	Difference	Availability in %
	Period duration	92	132,480	132,314	99.875%
Q2		Outage duration in min		758	
		Days	Minutes	Difference	Availability in %
	Period duration	92	132,480	131,722	99.428%
Q3		Outage duration in min		1,948	
		Days	Minutes	Difference	Availability in %
	Period duration	91	131,040	129,092	98.513%
Q4		Outage duration in min		447	
		Days	Minutes	Difference	Availability in %
	Period duration	91	131,040	130,593	99.659%
Annual		Outage duration in min		3319	
		Days	Minutes	Difference	Availability in %
	Period duration	366	527,040	523,721	99.370%

Table 3: Transmission line availability in 2019-2020

The average total power losses for this year (technical and non-technical) increased from 19.39% of the previous year to 19.41% as per the graph below:

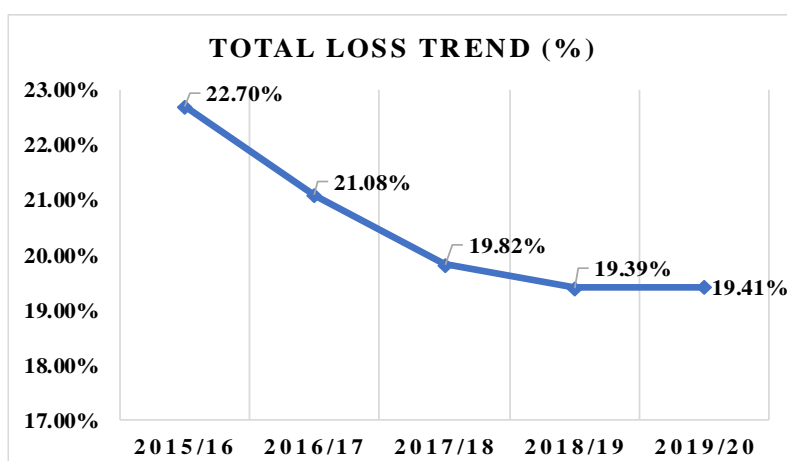


Figure 7: Trend of total energy losses

Countrywide, the distribution network performance was improved compared to the previous year given that the System Average Interruption Duration Index (SAIDI) reduced from 25.6 hours per year to 17.2 hours per year and the average number of interruptions that a customer experienced (SAIFI) reduced from 49 times per year to 37 times per year. The SAIDI and SAIFI in Kigali were respectively 1.420 hours and 2.816 times per year.

During this financial year, a total number of outages reduced from 11,063 to 10,756 (2.8% decrease) and almost all were caused by earth faults, overcurrent and under frequency as shown by the table below:

Causes	Frequency	Duration(h)	Energy not served (MWh)	Total Cost	Freq %
Earth Fault	4,551	586.8	787.2	145,883,305	42%
Overcurrent	3,021	571.5	781.1	144,761,147	28%
Under Frequency	2,458	255.7	306.6	56,842,910	23%
Emergency Works	334	269.6	222.3	41,194,485	3%
Overload	243	4.8	32.5	6,023,449	2%

Planned Works	94	137.6	173.1	32,065,955	1%
Overvoltage	30	19.1	91.6	16,989,246	0%
Emergency Load shed.	21	2.0	3.9	720,645	0%
Undervoltage	4	0.1	0.2	36,291	0%
Grand Total	10,756	1,847.2	2,398.5	444,517,432	100%

Table 4: Summary of annual outages

However, the monetary loss reduced from Rwf 457,190,086 of last year to Rwf 444,517,432, equivalent to a 27.7% reduction.

2.6. Corporate governance

The functional strategies identified in REG strategic plan can only be realized by putting in place structures, systems policies and procedures that support efficient implementation and the need to attract, develop and retain staff with the requisite skills for effective implementation. It is in that regard that out of the minimum four required meetings of the Board of Directors, six meetings were held successfully and provided guidance and resolutions necessary for REG’s smooth operations. REG’s Board of directors approved the REG Strategic Plan (2017-2024) and the IT Manual and Strategy. Also, REG’s Registration Certificates and Memorandum and Articles of Association were updated and certified.

An invitation for Shareholders General Assembly was also sent. Executive Management Meetings were also held regularly.

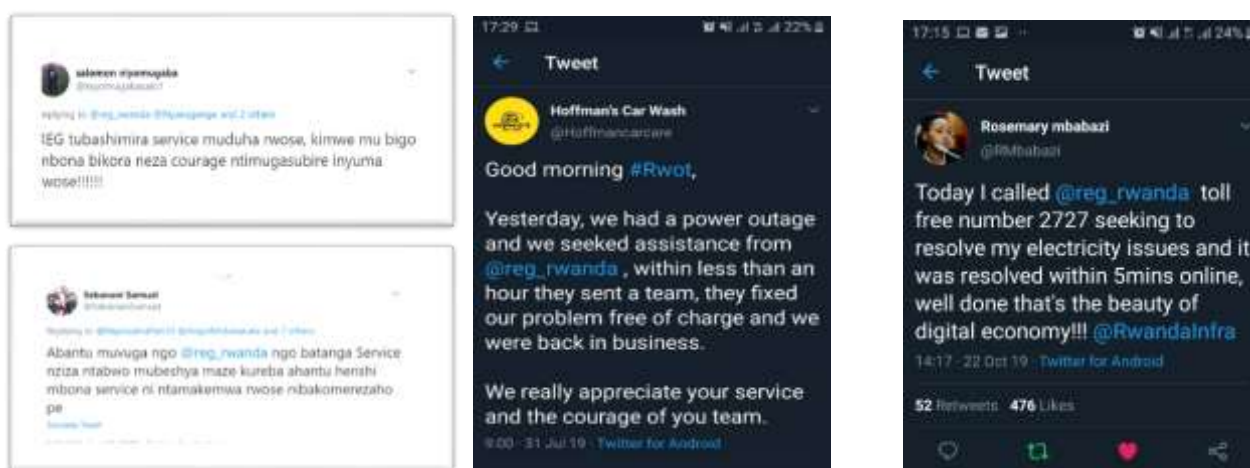
Moreover, legal opinions were delivered to the Management and to the Board on regular basis and the contract and dispute management committee was put in place. Recommendations from MINIJUST on contract management were adopted and approved to be implemented, hence prompting to amend the Procedure Manual accordingly. Finally, REG and its subsidiaries were well represented in courts and arbitration.

2.7. Communication and public relations

During the fiscal year 2019/2020, different communication activities were implemented aiming at enhancing the positive image of REG among the public and the media, removing the confusion of REG name from “EWSA” and “WASAC”, ensuring customers’ satisfaction, promoting staff integrity, ensuring a comprehensive awareness program, communicating energy efficiency and combatting malpractices related to electricity low/theft. The activities were achieved through:

- The intensification of 131 positive stories and 62 news stories published in local media and REG website and The disseminated REG information to the public and enhanced culture of reading within REG Staff and stakeholders through REG Magazine and REG Newsletter.
- The organized REG Umuganda whereby REG staff joined citizens to their monthly Umuganda activities and used this opportunity to exchange REG programs with them,
- Branding of substations, power plants and branches with REG logo to facilitate the public to see the energy company as one with a name that is simple to pronounce “REG.
- Supporting two professional teams, REG basketball club and REG volleyball club, which are used for the visibility of REG. The two teams are now playing in the national leagues and are well known by the public.
- Sponsoring the Miss Rwanda Excellence Awards, Imbutu Foundation Edified Generation initiative as well as BK Basketball tournament.

- Use of various platforms, talk-shows on Radios and TVs, advertorial radio/TV spots, community meetings, to ensure education and awareness on the use of off-grid solutions, clean cooking technologies and safety among others.
- Efforts to combat electricity theft were also enhanced and apprehended defaulters suspected of stealing electricity were published in Media. This has reduced the culture of stealing electricity tremendously. More than 50 articles on electricity theft were published in local media.
- Enhancing good service delivery at the center of all REG activities to have all customers satisfied with REG services. During the year 2019/2020, messages shared with REG showed improvement of the services rendered to the public. Below are the screenshots of some of the messages appreciating REG’s services:



2.8. Capacity building

Human capacity development has been at the forefront of interventions within the energy sector. REG continues to ensure adequate skillsets among its staff to ensure that all Rwandans are served with electricity by end of 2024. In the 2019/2020, the following were accomplished in the sphere of human resources management;

- Staff recruitment:** 54 new EDCL staff, 43 New EUCL Staff and 4 new REG Holding Staff were recruited (on contract and permanent basis), to fill in 37 vacant positions within EDCL, 43 Vacant posts within EUCL, and 18 Vacant posts within REG Holding.
- Capacity building:** 341 EUCL staff, 89 EDCL staff and 1 REG Holding staff were trained in various fields ranging from hydropower management, GIS and geometric network operations, sector reforms management, contract management as well as health and safety.
- Payment of salary arrears:** the calculations of arrears of former EWSA staff was completed and submitted to MINECOFIN for payment. During the same period, calculations of courts judgements of 100 former EWSA staff was completed whereby 58 staff were paid while other 42 staff are pending for payment.

2.9. Commercial services

Electricity billing and revenue collections

During the fiscal year 2019/2020, the total electricity billed by EUCL for both prepayment and post payment customers, including exports to Uganda through Cyanika-Kisoro, increased to 702,597,060.14kWh from 687,808,690kWh of last year and respectively the bill increased to Rwf 137,912,290,995 down from Rwf 127,324,985,297 (8.31%). The total collection on prepayment, post payment and works are 96% of total collections equivalent to Rwf 132,360,211,127 in 2019-2020 compared to Rwf 128,976,077,530 in 2018-2019. The following tables provide details on the electricity billing and revenue collection of EUCL's commercial department during FY2019/20.

Billing								
	Post Paid	Pre-paid	Works	Dark Fiber	UETCL	OWN CONSUMPTION	PUBLIC LIGHTING	Total Amount Billed
July	5,967,716,498	5,046,262,951	155,446,433		28,181,011	112,640,624	368,050,886	11,197,606,893
August	6,075,911,903	5,214,306,552	244,218,650	163,242,009	28,042,946	117,839,542	398,092,923	11,725,722,060
September	6,111,926,809	5,089,536,183	93,692,969		27,192,695	105,456,480	382,851,542	11,322,348,656
October	6,053,122,670	5,086,730,325	111,967,142		26,817,805	100,964,050	414,420,056	11,278,637,942
November	5,725,042,677	4,910,032,626	171,732,194	130,775,872	27,272,911	83,717,946	407,327,696	10,964,856,280
December	6,131,902,520	5,229,405,297	24,326,275		31,723,832	75,061,818	416,638,892	11,417,357,925
January	6,046,193,022	5,261,085,416	85,307,523		30,273,130	87,007,306	393,229,695	11,422,859,091
February	6,519,603,282	5,419,814,375	658,492,234		25,808,679	101,866,267	371,923,567	12,623,718,569
March	6,154,305,317	5,969,093,662	113,462,187		26,772,739	98,332,581	323,641,222	12,263,633,905
April	5,359,919,735	4,529,931,787	50,682,436		24,893,118	65,209,567	343,992,827	9,965,427,076
May	5,981,896,429	5,055,672,721	159,180,078		27,549,141	66,199,916	331,932,722	11,224,298,370
June	6,730,558,231	5,332,639,921	79,352,266	337,326,174	25,947,637	78,930,777	337,859,999	12,505,824,229
Total	72,858,099,093	62,144,511,816	1,947,860,388	631,344,055	330,475,642	1,093,226,873	4,489,962,028	137,912,290,995

Table 5: Electricity Billing

Collection								
	Post Paid	Pre-paid	Works	Dark Fiber	UETCL	OWN CONSUMPTION	PUBLIC LIGHTING	Total Cash collections
July	5,123,168,678	5,046,262,951	155,446,433		27,518,480	112,640,624	368,050,886	10,324,878,062
August	5,433,213,252	5,214,306,552	244,218,650	132,961,888	27,918,793	117,839,542	398,092,923	10,891,738,454
September	5,159,826,851	5,089,536,183	93,692,969		27,192,695	105,456,480	382,851,542	10,343,056,003
October	6,057,501,350	5,086,730,325	111,967,142		27,410,336	100,964,050	414,420,056	11,256,198,817
November	5,204,208,171	4,910,032,626	171,732,194		28,679,452	83,717,946	407,327,696	10,285,972,991
December	5,171,777,563	5,229,405,297	24,326,275		30,273,130	75,061,818	416,638,892	10,425,509,135
January	6,213,262,795	5,261,085,416	85,307,523		30,661,081	87,007,306	393,229,695	11,559,655,734
February	4,506,384,961	5,419,814,375	658,492,234	305,201,177	25,808,679	101,866,267	371,923,567	10,584,691,570
March	5,688,791,491	5,969,093,662	113,462,187		26,772,739	98,332,581	323,641,222	11,771,347,341
April	4,278,779,933	4,529,931,787	50,682,436		24,893,118	65,209,567	343,992,827	8,859,394,156
May	6,650,241,560	5,055,672,721	139,812,441			66,199,916	331,932,722	11,845,726,722
June	8,800,049,956	5,332,639,921	79,352,266			78,930,777	337,859,999	14,212,042,143
Total	68,287,206,560	62,144,511,816	1,928,492,751	438,163,065	277,128,502	1,093,226,873	4,489,962,028	132,360,211,127
	5,583,188,901	Money on Public lighting & Own Consumption						
Percentage	101%	100%	99%	69%	84%	100%	100%	96%
Note:	Note: Postpaid Collection rate including Money on Public lighting of (4,489,962,028), EUCL own Consumption (1,093,226,873) & VAT exclude on some Public institutions that pay us less VAT							

Table 6: Revenue collection

Revenue Protection Program (RPP)

The Revenue Protection Program (RPP) funded by the World Bank continued to be implemented and in addition to the 2,000 smart meters that were installed at the premises of postpaid customers in the previous year, funding for an additional 1,000 smart meters was requested from the World Bank to cover the remaining customers. They will be installed in the FY2020/21. The automated Metering System(MDM) is now linked to the billing system (CMS) and results yielded will enable data from customers' meters to be pushed into Customer Management System.

2.10. Energy Efficiency

About 83% of Rwandan Households use traditional biomass fuels for cooking and heating. However, the NST1 targets to reduce the use of these fuels to 42% by 2024. In this reporting financial year, REG/EDCL had opted to focus on awareness raising among the citizens on the use of modern cooking technologies from traditional cooking fuels.

In this reporting financial year, REG/EDCL had opted to focus on awareness raising among the citizens on the use of modern cooking technologies transitioning from traditional cooking fuels and a total of 31 awareness campaign sessions were conducted on Radio and TV in 17 districts of;Burera, Gakenke, Gatsibo, Gicumbi, Karongi, Kayonza, Kirehe, Musanze, Ngoma, Ngororero, Nyabihu, Nyagatare, Nyamasheke, Rubavu, Ruhango, Rusizi and Rutsiro. The message was on the availability and importance of transitioning to modern cooking technologies including liquefied petroleum gas and electricity.

2.11. Gender mainstreaming

In terms of promoting gender within the company, REG a full time gender advisor who is in charge of ensuring gender equality is considered at work place and all REG activities are gender sensitive. The following are the key activities done during fiscal year 2020/21:

- The REG gender policy and sexual harassment policy were revised to ensure their compliance with national gender policy and to target the company’s need to increase the number of women in technical and leadership positions as well as promoting a gender responsive work place.
- The REG affirmative action plan was developed and approved by the management as a key strategy to increase the number of women both in technical and leadership positions. For the affirmative action to be implemented, gender actions were integrated into company annual appraisal contracts (Imihigo) and is being aligned with HR manual to ensure effective implementation.
- REG has been in collaboration with technical schools and universities to ensure they refer their women students for internships and apprenticeship within the company to gain knowledge and skills that the company needs with a target to increase women who have experience to compete for available positions in technical areas to bridge the gender gap. To do this, REG has been working with partners through apprenticeship program to train women with technical background. Through this partnership a class of 33 women has been recruited, trained and will be placed in all REG branches as apprentices.
- Through partnership, REG joined the Global Engendering Utility Program provided by the George Town University, Washington, on behalf of USAID, to all utilities all over the world who want to promote gender. REG selected 3 staff who are taking this course for a period of 1 year and will be working together to promote gender and women empowerment.
- To create a safe and conducive work environment for women and breastfeeding mothers both REG subsidiaries established a breastfeeding or parenting room. The process is at 85% of completion and ready to be used.

3. CONCLUSION

This report highlights the key achievements realized in the Rwanda Energy Group over the course of fiscal year 2019/20. Though the performance of this year was generally good, REG and its subsidiaries continue to face the following challenges that negatively impact on the delivery of medium and long term goals of the energy sector as stipulated in such strategic documents as the NST1 and REG strategic plan:

1. Insufficient budget for development projects
2. The issue of mismatching demand and power supply
3. End user tariffs that are not cost reflective

Specific to FY2019/20, the COVID19 pandemic negatively affected the implementation of some projects and the utility suffered from delays in payment of invoices from big customers as well as very low load that caused low system voltages and led to blackouts.

Despite the above-mentioned challenges, REG is committed to continue engaging its shareholders as well as other stakeholders to find appropriate solutions. REG will also continue to build on the achievements realized and continue to implement policies, programs and strategies to achieve NST1 targets in close collaboration with all stakeholders involved, encouraging teamwork among its employees, as well as strengthening coordination, monitoring and evaluation.

ANNEXES

Annex 1: Implementation progress of REG Imihigo FY2019/20

REG IMIHIGO FY2019/2020									
#	Output	Indicator	Baseline	Data Source	Annual Target	Annual Progress	Activities	Budget (Frw)	TL
Outcome 11: Increased electricity generation installed capacity from 224.58 MW to 227.58MW by June 2020									
1	Output 11.1: 80 MW Hakan Peat-to-Power Plant constructed	% of construction progress	Plant construction at 61.3%	Quarterly progress reports	90%	91.4%	1) Monitor and report on implementation progress to deliver expected progress	72,174,486.0	Green
2	Output 11.2: 80 MW Rusumo Hydro Power Project monitored for compliance to standards and timely completion	% of construction progress	Construction works at 48%	Quarterly progress reports	61%	64%	1) Monitoring and reporting on the construction of the plant 2) Quality inspection	-	Green
3	Output 11.3: Symbion Methane Gas-to Power Project constructed	Construction power provided	Expropriation underway	Quarterly progress reports	500 KVA-30kV construction Power provided	630 kVA-30kV construction Power was provided to the developer beyond the required capacity (500 KVA-30kV) as stipulated in the initial PPA. In other activities, works at the platform of washing tower were recorded at 85% while excavation works were completed. Overall project progress is at 5%	1) Follow up on expropriation and compensation 2) Relocate transformer from Karisimbi to Symbion plant site 3) Installation of the transformer	Funded by the Independent Power Producer	Green

4	Output 11.4: Rukarara V Mushishito constructed	% of construction progress	Construction progress at 75%	Quarterly progress reports	100%	Overall project progress recorded at 80%. <i>Under this;</i> 1) Access roads construction was 94% 2) Powerhouse Switchyard was completed. 3) Electro-Mechanical Supply and installations were reported at 87% progress 4) Power intake, weir & water way civil works at 45% completion 5) The GRP posing was at 47% progress	1) Monitoring and reporting on the construction of the plant 2) Quality inspection	Funded by the Independent Power Producer	Green
Outcome 12: Improved Power Transmission and Distribution Network for reliability of power supply									
5	Output 12.1: 79.3 km of 220kV Mamba-Rwabusoro-Bugesera/110kV Bugesera-Gahanga Transmission Line and associated SS constructed	% of works Progress	45% (this is readjusted due to Project scope change)	Quarterly progress reports	100%	96%	1) Procurement of materials 2) Construction and commissioning	12,016,245,419	Green
6	Output 12.2: 119km of 220kV Single circuit Rusumo-Bugesera-Shango Transmission Line and associated SS constructed	% Progress of TL	Designs approved	Quarterly progress reports	70%	45.74%	1) Procurement, inspection and testing of materials 2) Construction works 3) Follow up on expropriation 4) Testing and commissioning 5) Expropriation completed	2,922,380,059	Yellow

7	Output 12.3: 63.5km of 220kV Rwanda-Burundi Transmission Line and associated SS constructed	% Progress of TL	30%	Quarterly progress reports	70%	68.00%	1) Follow up on expropriation 2) Procurements of materials, inspection & testing 3) Civil and electromechanical works 4) Testing, commissioning and energization	2,500,000,000.0	Green
8	Output 12.4: 631.85 km of National Roads served with Street lights	% of works Progress	Tender awarding notification issued	Quarterly progress reports	Construction works started	Project works started on the 30th June 2020 with some activities; including excavation, erection of poles and backfilling.	1) Construction works 2) Follow up on expropriation	5,000,000,000	Green
9	Output 12.5: Rubavu distribution Network upgraded from 6.6kV to 30kV	% progress of Network upgrade	Site mobilized	Quarterly progress reports	70%	73%	1) Procurement of materials 2) Monitor Property valuation and compensation 3) Monitor constructions works.	1,000,000,000	Green
10	Output 12.6: 48.06 km of 30kV line from Gabiro SS to Gabiro Commercial Farm constructed	% progress on Implementation	Installation Contract signed	Quarterly progress reports	5%	15%	1) Procurement of materials 2) Follow up on expropriation 3) Constructions works 4) Supervision and inspection of works	1,491,240,000.0	Green
Outcome 13: Increased access to Electricity from 51% to 56% by end of June 2020									
68	Output 13.1: 83,000 New Households connected to the National electricity grid	Number of new Households connected to the grid	1,044,334	Quarterly progress reports	83,000	134,356	1) Undertake design and site surveying 2) Procurement of construction	10,000,000,000	Green

69	Output 13.2 : 230 new Productive users areas connected to electricity grid	Number of new productive use areas connected to the grid	6,320	Quarterly progress reports	230	478	materials 3) Monitor asset valuation and compensation 4) Monitor constructions works 5) Supervise end-user connections		Green
70	Output 13.3 : 50,000 New Households connected to off-grid electricity	Number of Households connected to off-grid	336,746	Quarterly progress reports	50,000	61,806	1) Awareness creation 2) Inspection of installed systems 3) Reporting	124,489,437.0	Green
Outcome 14: Improved Transmission and Distribution capabilities and availability of the network									
71	Output 14.1 : 14.7km of Kigali distribution network reinforced (Rehabilitation of MV underground network)	% progress of works completed for the overhead MV lines	Project at 50% Progress	Quarterly progress reports	14.7km Completed	Overall Project Progress: 100% Cables supply: 100%. Cable installation: 100%	1) Supervision of EPC contractor, 2) Provide necessary support and secure necessary approvals for contractor to access site 3) Support in testing and commissioning of underground line and coordination with substation/cabins contractor	2,277,500,000.0	Green
72	Output 14.2 : Kigali distribution network reinforced (Construction of 1.5km, four circuit Overhead line between Gikondo and KBC - two circuits strung)	% progress of works completed for the overhead MV lines	Project at 50% Progress	Progress reports	1.5km overhead line, completed	Completed and operational	1) Site mobilization, materials ordering 2) Expropriation 3) Materials delivery to site 4) Construct 1.5km four circuit/two circuits strung for overhead line between Gikondo and KBC.	546,600,000.0	Green

Outcome 15: Enhanced Energy Use Efficiency								
73	Output 15.1: Awareness campaigns on the use Pellets, Briquettes and Improved Cook stoves conducted in 30 district	Number of awareness campaigns conducted	22	Quarterly progress reports	30	<p>31 awareness campaigns conducted in the following districts:</p> <p>1) Ruhango (Ruhango and Byimana Sectors) 2) Nyabihu (Mukamira and Jenda Sectors) 3) Gatsibo (Kiramuruzi, Kiziguro) 4) Rutsiro (Musasa, Mushonyi) 5) Gakenke (Nemba and Gakenke Sector 6) Gicumbi, 7) Musanze, 8) Nyagatare, 9) Kirehe , 10) Ngoma, 11) Rusizi, 12) Rubavu, 13) Nyamasheke and 14) Kayonza, 15) Burera, 16) Rusizi, 17) Karongi, 18) Rubavu, 19) Ngororero, and 20) Rutsiro</p>	<p>1) Customer education 2) Undertake Awareness campaigns 3) Prepare technical specs</p>	Green

Annex 2: Implementation progress of REG Energy Joint Imihigo FY2019/20

ENERGY JOINT IMIHIGO 2019/20								
No.	Output	Indicator	Baseline	Data source			Activities	Budget (RWF)
					Annual Target	Achievement		
Outcome 1: Increased Households access to electricity from 51% to 56%								
1	Output 1.1: 83,000 new Households connected to grid electricity	Number of households connected to the national grid electricity	1,008,810	1. EUCL (suprema system) 2. EDCL		134,356	REG 1. Preparation of Resettlement Action Plans (RAPs) 2. Property valuation and expropriation 3. Preparation of designs and survey for district electrification 4. Procurement of construction materials and service connections. 5. Construction of Medium and Low Voltage lines and monitoring 6. Installation of transformers All Districts: 1. Facilitate in property valuation 2. Process and approving property valuation forms 3. Management of expropriation and payment of expropriation files for projects initiated by districts 4. Make payments for purchase of materials and construction works for	36,888,690,804
		# New Households connected to the grid: Northern Province			83,000	24,886		
		# New Households connected to the grid: Western Province			13,709	32,827		
		# New Households connected to the grid: Southern province			22,154	29,149		
		# New Households connected to the grid: CoK Province			19,624	13,061		
		# New Households connected to the grid: Eastern province			9,110	34,433		
					18,403			

							projects initiated/ owned by Districts and other stakeholders (MDAs) 5. Provide internal wiring after completion of connection works to activate cash powers for poor households
2	Output 1.2: 230 New productive users connected to electricity	Number of productive users connected	6,320	EDCL Reports	230	432	Stakeholders (Ministries)- MINAGRI, MINEDUC, MINISANTE, MINALOC
		# Administrative offices connected			70	163	1. Management of expropriation and payment of expropriation files for projects initiated by Ministries
		# Water Pumping stations connected			2	23	2. Make payments for purchase of materials and construction works for projects initiated/ owned by Ministries
		# Coffee washing stations connected			8	0	3. Provide internal wiring after completion of connection works to activate cash powers/ to enable consumption of electricity.
		# Schools connected			128	87	
		# Markets connected			3	9	
		# Health facilities connected			10	91	
		# Milk collection centers connected			1	5	
		# Telcom towers			4	52	
		# Model villages connected			4	2	

3	Output 1.3: 50,000 New Households connected to off-grid electricity	# New Households connected to off-grid electricity	336,746	EDCL Reports	50,000	61,806	REG 1. Awareness creation 2. Inspection of installed systems 3. Reporting Off-grid private companies 1. Supply of solar home systems 2. Installation of supplied solar home systems	424,489,437
Outcome 2: Reduced biomass usage for cooking								
4	Output 2.1: 30 Awareness campaigns on the use pellets, briquettes and ICSs	Number of awareness campaigns conducted	22	EDCL Reports	30	31 awareness campaigns conducted at: -Ruhango (Ruhango and Byimana Sector) -Nyabihu (Mukamira and Jenda Sector) -Gatsibo (Kiramuruzi, Kiziguro) -Rutsiro (Musasa, Mushonyi) -Gakenke (Nemba and Gakenke Sector Gicumbi, Musanze, Nyagatare, Kirehe , Ngoma, Rusizi, Rubavu, Nyamasheke and Kayonza, (Nyabihu, Burera, Gakenke, Rusizi (2), Karongi, Rubavu, Ngororero, and Rutsiro and 1 on RBA-Radio and 1 awareness campaign was conducted: using article on Igihe.com, Live talk-show on TV1 &Radio1 on	REG 1. Customer education 2. Awareness campaigns Districts 1. Mobilization of participants 2. Identification of promotion/awareness campaign venue	30,000,000

						Improved Cook Stoves		
5	Output 2.2: 10,000 Improved Cook stoves Distributed	Number of improved cooking stoves distributed	20,000 improved cooking stoves distributed in Gatsibo	Administrative and Approved Reports			<u>MOE/RWFA</u> 1. Tendering processes and contract award; 2. Distribution of improved cook stoves <u>MININFRA/REG</u> 1. Provide Support on appropriate improved cook stoves to be distributed	600,000,000

Annex 3: List of distribution projects completed by EDCL in FY2019/20

S/N	District	Project description	Category	Completion
1	Bugesera	Electrification of Gako beef project farms phase 2	Productive Use Areas	
2	Bugesera	Completion of 2.5km of LV network for Nyarugenge single phase transformer	Households and Productive Use Areas	9/6/2020
3	Bugesera	Power supply to Kanzenze Water Pimping Station in Bugesera District	Productive Use Areas	1-Jun-20
4	Kayonza	Electrification of KAZINYENZI WPS in Kayonza District	Households and Productive Use Areas	
5	Kayonza	Electrification of Karuruma WPS in Kayonza District	Households and Productive Use Areas	
6	Kirehe	Electrification of Kamusare Pumping Station	Productive Use Areas	6-Jun-20
7	Nyagatare	Power supply to Rwempasha, MCCs-funded by MINAGRI	Productive Use Areas	
8	Rwamagana	Power Supply to Rwamagana Industrial Park to boost its productive capacity	Households and Productive Use Areas	
9	Gasabo	Electrification of Nyamitanga & Kidashya areas in Jali and Jabana sectors	Households and Productive Use Areas	31-Oct-19
10	Gasabo	Installation of a dedicated transformer at Gacaca Archive Building	Households and Productive Use Areas	30-May-20
11	Kicukiro	MV LINE EXTENSION AND LV LINE UPGRADE TO ITUNDA VILLAGE, KANOMBE SECTOR	Households and Productive Use Areas	30-May-20
12	Kicukiro	Electrification of Ayabaraya Incomplete Site in Kicukiro District	Households and Productive Use Areas	30-May-20
13	Nyarugenge	INCOMPLETE SITES IN MAGERAGERE SECTOR	Households and Productive Use Areas	30-Mar-20
14	Nyarugenge	Electrification of Households surrounding Mont Kigali in Nyamirambo Sector	Households and Productive Use Areas	15-Jun-20
15	Gakenke	Electrification of Nyundo Health Center and Rurembo-Rusasa Site in Rusasa Sector	Households and Productive Use Areas	
16	Gakenke	Completion of LV line for Nemba transformer (3.5km-LV)	Households and Productive Use Areas	
17	Gicumbi	Electrification (upgrade)of Bukure MCC	Households and Productive Use Areas	
18	Gicumbi	Power supply to ECD Miyove, Nyankenke sector office and 282 Surrounding Households in Miyove and Nyankenke sectors	Households and Productive Use Areas	19-Nov-19
19	Gicumbi	Electrification of Kigogo Health Center, Kigogo Cell Office, G S Kigogo and Households along the road Yaramba-Kigogo in Nyankenke Sector	Households and Productive Use Areas	

S/N	District	Project description	Category	Completion
20	Gicumbi	Electrification of Kaniga sites in Gicumbi District	Households and Productive Use Areas	30-Dec-19
21	Gicumbi	Replacement of two transformers for Rutare and Bulindi-Cyumba Water Pumping Stations	Productive Use Areas	30-May-20
22	Musanze	Electrification of Nyagisozi and Kavumu cells of Busogo	Households and Productive Use Areas	
23	Musanze	Upgrade of Musanze Prime Cement Industry	Productive Use Areas	
24	Gisagara	Electrification of Akanyaru site	Households and Productive Use Areas	
25	Huye	Installation of street lights on HUYE-GISAGARA road (9.76Km)	Productive Use Areas	
26	Nyaruguru	Construction of Evacuation Line of 34KW MUDASOMWA Pico-HPP	Households and Productive Use Areas	30-Mar-20
27	Nyaruguru	Electrification of Surrounding HHs at Nshili Micro-Hydropower Plant in Busanze Sector	Households and Productive Use Areas	
28	Nyaruguru	Electrification of NSHILI BORDER POST	Productive Use Areas	
29	Nyaruguru	Construction of 9.69KMs of LV Lines in NYAMABUYE and BUNGE Cells	Households and Productive Use Areas	
30	Ngororero	Electrification of Mutake Centre in Ngororero District-BC	Households and Productive Use Areas	
31	Nyabihu	Temporary Power Supply to Giciye III Power Supply in Nyabihu	Households and Productive Use Areas	
32	Rubavu	Completion of Nyakiriba LV line(5Km-LV)	Households and Productive Use Areas	
33	Rubavu	Electrification of centres along the Borders (IGAGAZA)	Households and Productive Use Areas	
34	Rubavu	Construction of evacuation line of Rubavu Substation	Households and Productive Use Areas	
35	Rubavu	Electrification of 7 MCC on behalf of Rwanda Development Project (RDDP). Gitwa (KURUM) and Nkomane (KODAMIN) -Kanama sector	Productive Use Areas	
36	Rutsiro	Electrification of SURE and Maize Flour Industry	Households and Productive Use Areas	12-Mar-20
37	Gisagara	Construction of works of MV and LV Networks and Service Connections	Households and Productive Use Areas	Jul-19
38	Gisagara	Construction of works of MV and LV Networks and Service Connections in Gisagara District	Households and Productive Use Areas	Jul-19

S/N	District	Project description	Category	Completion
39	Bugesera	Results-based financing for grid densification in Rwanda (Grid densification) by GIZ	Households and Productive Use Areas	31-Dec-19
40	Gatsibo	Results-based financing for grid densification in Rwanda (Grid densification) by GIZ	Households and Productive Use Areas	31-Dec-19
41	Kayonza	Results-based financing for grid densification in Rwanda (Grid densification) by GIZ	Households and Productive Use Areas	31-Dec-19
42	Kirehe	Results-based financing for grid densification in Rwanda (Grid densification) by GIZ	Households and Productive Use Areas	31-Dec-19
43	Nyagatare	Results-based financing for grid densification in Rwanda (Grid densification) by GIZ	Households and Productive Use Areas	31-Dec-19
44	Rwamagana	Results-based financing for grid densification in Rwanda (Grid densification) by GIZ	Households and Productive Use Areas	31-Dec-19
45	Gasabo	Results-based financing for grid densification in Rwanda (Grid densification) by GIZ	Households and Productive Use Areas	31-Dec-19
46	Kicukiro	Results-based financing for grid densification in Rwanda (Grid densification) by GIZ	Households and Productive Use Areas	31-Dec-19
47	Nyarugenge	Results-based financing for grid densification in Rwanda (Grid densification) by GIZ	Households and Productive Use Areas	31-Dec-19
48	Gakenke	Results-based financing for grid densification in Rwanda (Grid densification) by GIZ	Households and Productive Use Areas	31-Dec-19
49	Musanze	Results-based financing for grid densification in Rwanda (Grid densification) by GIZ	Households and Productive Use Areas	31-Dec-19
50	Gisagara	Results-based financing for grid densification in Rwanda (Grid densification) by GIZ	Households and Productive Use Areas	31-Dec-19
51	Nyaruguru	Results-based financing for grid densification in Rwanda (Grid densification) by GIZ	Households and Productive Use Areas	31-Dec-19
52	Ngororero	Results-based financing for grid densification in Rwanda (Grid densification) by GIZ	Households and Productive Use Areas	31-Dec-19
53	Nyabihu	Results-based financing for grid densification in Rwanda (Grid densification) by GIZ	Households and Productive Use Areas	31-Dec-19
54	Rubavu	Results-based financing for grid densification in Rwanda (Grid densification) by GIZ	Households and Productive Use Areas	31-Dec-19
55	Kicukiro	Electrification of NUNGA Village	Households and Productive Use Areas	30-May-20

S/N	District	Project description	Category	Completion
56	Gakenke	Plant Design, Supply, and Installation of Low Voltage and Medium Voltage Lines and service connections in Gakenke, Musanze and Burera districts of Northern Province-left behind by SPENCON Company	Households and Productive Use Areas	10-Oct-19
57	Musanze	Plant Design, Supply, and Installation of Low Voltage and Medium Voltage Lines and service connections in Gakenke, Musanze and Burera districts of Northern Province-left behind by SPENCON Company	Households and Productive Use Areas	10-Oct-19
58	Rutsiro	ELECTRIFICATION OF URUHIMBI MILK COLLECTION CENTER	Productive Use Areas	23-Jun-20
59	Karongi	Electrification of Western zone (lots 5, Lot 5 and Lot 8) by former Overseas Infrastructure Alliances under SEAP-In house teams	Households and Productive Use Areas	21-May-20
60	Nyamasheke	Electrification of Western zone for former Overseas Infrastructure Alliances under SEAP-In house teams	Households and Productive Use Areas	21-May-20
61	Rusizi	Electrification of Western zone (lots 5, Lot 5 and Lot 8) by former Overseas Infrastructure Alliances under SEAP-In house teams	Households and Productive Use Areas	21-May-20
62	Nyaruguru	Electrification of Priority Centres in Seven Sectors	Households and Productive Use Areas	30-Mar-20
63	Burera	Plant Design, Supply, and Installation of Low Voltage and Medium Voltage Lines and service connections in Gakenke, Musanze and Burera districts of Northern Province-left behind by SPENCON Company	Households and Productive Use Areas	10-Oct-19

Annex 4: Evolution of the generation installed capacity

a) Domestic Power Plants

Nº	Name	Location (District)	Type of Fuel	Technology	Year of Commissioning	Installed Capacity (Mw)	Effective Capacity (Mw)	On/Off Grid
1	Nyabarongo	Muhanga	Water	Hydro	2014	28	28	ON
2	Mukungwa 1	Musanze	Water	Hydro	1982	12	12	ON
3	Ntaruka	Burera	Water	Hydro	1959	11.25	9	ON
4	Gisenyi	Rubavu	Water	Hydro	1957	1.7	1.0	ON
5	Gihira	Rubavu	Water	Hydro	1984	1.8	1.6	ON
6	Rugezi	Burera	Water	Hydro	2011	2.6	2.5	ON
7	Keya	Rubavu	Water	Hydro	2011	2.2	1.8	ON
8	Nkora	Rutsiro	Water	Hydro	2011	0.68	0.46	ON
9	Cyimbili	Rutsiro	Water	Hydro	2011	0.3	0.15	ON
10	Rukarara 1	Nyamagabe	Water	Hydro	2011	9	8	ON
11	Rukarara 2	Nyamagabe	Water	Hydro	2014	2.2	2	ON
12	Mukungwa 2	Musanze	Water	Hydro	2013	3.6	3.6	ON
13	Janja	Gakenke	Water	Hydro	2012	0.2	0	ON
14	Nyabahanga	Karongi	Water	Hydro	2012	0.2	0.2	ON
15	Nyirabuhombohombo	Nyamasheke	Water	Hydro	2013	0.5	0	OFF
16	Gashashi	Rutsiro	Water	Hydro	2013	0.28	0.1	ON
17	Nshili 1	Nyaruguru	Water	Hydro	2012	0.4	0.3	ON
18	Nyamyotsi 1	Nyabihu	Water	Hydro	2007	0.1	0	OFF
19	Nyamyotsi 2	Nyabihu	Water	Hydro	2011	0.1	0	OFF
20	Mutobo	Musanze	Water	Hydro	2009	0.2	0.2	ON
21	Agatobwe	Nyaruguru	Water	Hydro	2010	0.39	0.39	ON
22	Murunda	Rutsiro	Water	Hydro	2010	0.1	0.1	ON
23	Musarara	Gakenke	Water	Hydro	2013	0.4	0.39	ON
24	Giciye 1	Nyabihu	Water	Hydro	2014	4	2.2	ON
25	Giciye 2	Nyabihu	Water	Hydro	2016	4	2.2	ON
26	Mazimeru	Nyaruguru	Water	Hydro	2012	0.5	0.38	ON
27	Gaseke	Gakenke	Water	Hydro	2017	0.5	0.27	ON
28	Gishoma	Rusizi	Peat	Thermal	2016	15	0	ON
29	Kivuwatt	Karongi	Methana gaz	Thermal	2015	26.19	26.4	ON
30	KPI (Methane gaz)	Rubavu	Methana gaz	Thermal	2008	3.6	0	ON
31	Jabana 1	Gasabo	Diesel LFO	Thermal	2004	7.8	6	ON
32	Jabana 2	Gasabo	Diesel HFO	Thermal	2009	21	20.1	ON
33	SoEnergy Masoro	Gasabo	Diesel	Thermal	2017	10	10	ON

<i>N^o</i>	<i>Name</i>	<i>Location (District)</i>	<i>Type of Fuel</i>	<i>Technology</i>	<i>Year of Commissioning</i>	<i>Installed Capacity (Mw)</i>	<i>Effective Capacity (Mw)</i>	<i>On/Off Grid</i>
34	SoEnergy Mukungwa	Musanze	Diesel	Thermal	2017	10	10	ON
35	SO Energy Birembo	Gasabo	Diesel	Thermal	2018	10	10	ON
36	Gigawatt	Bugesera	Solar	PV Solar	2014	8.5	6	ON
37	Jali Solar	Gasabo	Solar	PV Solar	2007	0.25	0.2	ON
38	Nasho Solar	Kirehe	Solar	PV Solar	2017	3.3	2.8	ON
39	Rwaza	Musanze	Water	Hydro	2018	2.6	2	ON
40	Rukarara V- Mushishito	Nyamagabe	Water	Hydro	2019	2.3	1.8	ON
41	Rubagabaga	Nyabihu	Water	Hydro	2019	0.45	0.15	ON
42	Nyirantaruko Hpp	Nyamasheke	Water	Hydro	2020	1.84	1.84	ON
43	Kigasa MHPP	Musanze	Water	Hydro	2020	0.272	0.272	ON
44	Mukungu PHPP	Karongi	Water	Hydro	2020	0.016	0.016	OFF
S/Total 1						210.318	174.418	

b) Imported Generation

<i>No</i>	<i>Name</i>	<i>Location</i>	<i>Type of Fuel</i>	<i>Technology</i>	<i>Year of Commissioning</i>	<i>Installed Capacity (Mw)</i>	<i>Effective Capacity (Mw)</i>	<i>On/Off Grid</i>
1	Mururu I	Rusizi	Water	Hydro	1958	4.1	4	ON
2	Mururu II	Rusizi	Water	Hydro	1989	12	8	ON
3	Gatuna	From Uganda	n/a	n/a	n/a	2	2	ON
S/Total 2						18.1	14	
TOTAL						228.418	188.418	

Annex 5: Annual grid connections per districts as achieved in FY2019/20

MONTHLY NEW CONNECTIONS ON GRID PER BRANCH FOR FY 2019-2020														
No	Branch	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	Total
1	BUGESERA	491	531	926	400	705	673	646	873	303	39	911	854	7,352
2	BURERA	239	779	389	412	1248	1176	323	808	170	2	502	533	6,581
3	GAKENKE	465	578	415	178	259	424	432	411	203	2	218	157	3,742
4	GATSIBO	460	281	254	146	261	413	245	393	183	7	242	465	3,350
5	GICUMBI	380	618	455	464	343	381	251	429	287	21	263	389	4,281
6	GISAGARA	1173	1438	931	806	927	838	579	465	287	2	376	556	8,378
7	HUYE	285	255	215	275	268	190	246	199	115	1	120	832	3,001
8	JABANA	208	183	178	183	323	470	341	151	147	0	139	219	2,542
9	KACYIRU	94	69	67	70	52	52	46	48	32	1	40	109	680
10	KAMONYI	260	619	287	303	291	297	285	285	248	4	304	344	3,527
11	KANOMBE	365	315	274	264	293	385	527	845	84	1	143	410	3,906
12	KARONGI	283	215	101	290	231	111	277	176	166	207	578	599	3,234
13	KAYONZA	372	372	368	247	314	622	381	759	224	3	340	567	4,569
14	KICUKIRO	95	128	109	101	251	314	185	164	78	0	126	293	1,844
15	KIREHE	539	644	631	943	449	640	317	487	98	181	522	850	6,301
16	MUHANGA	179	147	167	140	131	84	92	112	55	0	78	153	1,338
17	MUSANZE	281	755	383	1494	498	1451	267	676	344	5	410	677	7,241
18	NGOMA	409	886	345	377	459	477	560	294	115	93	255	474	4,744
19	NGORORERO	297	250	427	441	326	99	245	888	138	55	185	444	3,795
20	NYABIHU	274	222	186	176	248	371	144	349	128	13	218	622	2,951
21	NYAGATARE	331	759	1025	325	108	307	425	290	154	114	213	125	4,176
22	NYAMAGABE	274	97	139	94	58	34	31	178	148	2	54	244	1,353
23	NYAMASHEKE	178	279	379	452	325	214	53	270	236	84	132	482	3,084
24	NYANZA	464	363	269	152	109	69	72	70	41	5	66	323	2,003
25	NYARUGENGE	143	128	127	109	166	198	239	207	82	4	183	189	1,775
26	NYARUGURU	505	503	306	415	728	548	592	260	350	202	662	438	5,509
27	REMERA	239	259	161	137	115	203	162	503	113	3	77	216	2,188

28	RUBAVU	704	832	745	792	712	1023	201	671	466	27	731	958	7,862
29	RUHANGO	863	703	447	96	293	257	136	366	171	1	297	353	3,983
30	RULINDO	106	431	226	354	304	250	246	201	111	0	161	629	3,019
31	RUSIZI	394	357	321	332	350	417	592	834	296	582	424	500	5,399
32	RUTSIRO	233	578	76	901	411	620	541	412	134	152	530	1883	6,471
33	RWAMAGANA	213	458	519	297	257	270	321	361	346	51	400	405	3,898
	S/Total Prepaid	11,796	15,032	11,848	12,166	11,813	13,878	10,000	13,435	6,053	1,864	9,900	16,292	134,077
	S/Total Postpaid	31	33	23	46	17	13	30	17	17	6	24	22	279
	Grand Total	11,827	15,065	11,871	12,212	11,830	13,891	10,030	13,452	6,070	1,870	9,924	16,314	134,356
			Q1	38,763										
			Q2	37,933										
			Q3	29,552										
			Q4	28,108										
			Total	134,356										