

AFRICAN DEVELOPMENT BANK GROUP

Public Disclosure Authorized



RWANDA

ADDITIONAL FINANCING

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SCALING UP ELECTRICITY ACCESS PROGRAM - PHASE II

APPRAISAL REPORT

PESD/RDGE/PGCL

May 2019

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CURRENCY EQUIVALENTS

As of 23rd February 2019

1 Unit of Account (UA)	=	1.22 Euro (EUR)
1 Unit of Account (UA)	=	1.40 US dollars (USD)

FISCAL YEAR

1 July -30 June

WEIGHTS AND MEASURES (If relevant)

1 metric tonne	=	2204 pounds (lbs)
1 kilogramme (kg)	=	2.200 lbs
1 metre (m)	=	3.28 feet (ft)
1 millimetre (mm)	=	0.03937 inch (“)
1 kilometre (km)	=	0.62 mile
1 hectare (ha)	=	2.471 acres

ACRONYMS AND ABBREVIATIONS

ADF	African Development Fund (Concessional Financing Window)
ADB	African Development Bank (Non-Concessional Financing Window)
AF	Additional Financing
AfDB	African Development Bank
CSP	Country Strategy Paper
DLI	Disbursement Linked Indicator
DO	Development Objective
DPs	Development Partners
DPO	Development Policy Operation
EDCL	Energy Development Corporation Limited
EDR	Economic Discount Rate
EIRR	Economic Internal Rate of Return
ENPV	Economic Net Present Value
ESSP	Energy Sector Strategic Plan
EU	European Union
EUCL	Energy Utility Corporation Limited
FIRR	Financial Internal Rate of Return
FM	Financial Management
GIZ	Deutsche Gesellschaft für Internationale
IPPs	Independent Power Producers
ISS	Integrated Safeguards Systems
IVA	Independent Verification Agency
KKK feeder	Kabarondo Kayonza Kiziguro feeder
LV	Low Voltage
MINECOFIN	Ministry of Finance and Economic Planning
MININFRA	Ministry of Infrastructure
MV	Medium Voltage
MW	Megawatt
NPV	Net Present value
NST	National Strategy for Transformation
PAP	Program Action Plan
PAR	Projects Appraisal Report
PFM	Public Financial Management
RBF	Results Based Financing
REG	Rwanda Energy Group
SAIDI	System Average Interruption Duration Index
SEAP II	Scaling Up Electricity Access Phase II Program
SEFA	Sustainable Energy Fund for Africa
SESA	Strategic Environmental Social Assessment
SME	Small Medium Enterprises

ADDITIONAL FINANCING DATASHEET

Basic Information - Additional Financing (AF)				
Regional Director General: Gabriel NEGATU Sector Director: Batchi Henry Paul BALDEH Sector Manager: Angela NALIKKA Country Manager: Martha Thumbiko PHIRI Team Leader: Stella MANDAGO Program Loan ID: P-RW-FA0-008			Sectors: Energy	
Basic Information - Original Program				
Program Loan ID: P-RW-F00-016 Program Name: SEAP II RBF Lending Instrument: RBF Lending Windows: ADB and ADF Loans ADF Loan No. : 2100150040243 ADB Loan No.: 2000200003102			Effectiveness Date: 7.12.2018 Expected Closing Date: 30.03.2022	
AF Financing Plan				
Source			Total Amount (USD)	
Total Additional Financing Program Cost: (16.4 UA million) Borrower: Republic of Rwanda Total Bank Financing: ADF : UA 16.4 Million			USD 22.97Million	
Client Information				
Recipient: Ministry of Finance and Economic Planning Contact Person: The Permanent Secretary and Secretary to the Treasury Telephone No.: +250 252 577 581 Email: caleb.rwamuganza@minecofin.gov.rw				
Responsible Agency: Ministry of Infrastructure Contact Person: The Permanent Secretary Telephone No.: +250 252 582 619 Email: patricie.uwase@mininfra.gov.rw				
AF Estimated Disbursements (Bank FY/UA [USD]Million)				
FY	2019/2020		2020/2021	
	UA	USD	UA	US
ANNUAL	6.560	9.190	9.840	13.780
CUMMULATIVE	6.560	9.190	16.400	22.970

Program Development Objective and Description

Original Program development objective: The primary objective of the Scaling Up Electricity Access (SEAP) Phase II Program is to support the Government of Rwanda (GoR) to meet its ambitious energy targets of universal electricity access to Kigali city by 2019 and nationwide by 2024. This objective of SEAP II is to be achieved through improvements in power supply reliability, increase in on-grid access countrywide and increase in off grid access in the Southern and Western provinces of the country.

Revised Program development objective: NO CHANGE.

Program Description: On September 2018, the Board of Directors approved Rwanda’s SEAP Phase II program, with a total commitment of UA 191Million (ADB = UA 138 Million and ADF = UA 53 Million) to finance the program through the Results Based Financing (RBF) instrument. The purpose of SEAP II is to support the Government of Rwanda’s (GoR) efforts to improve the reliability of power supply and increase on and off-grid access to electricity. In this regard, SEAP II has four (4) Results Areas, namely: (i) Improve reliability of electricity supply; (ii) Increase on-grid electricity access for household and productive-use for Small Medium Enterprises (SME); (iii) Increase off-grid access to renewable energy; and (iv) Institutional strengthening and capacity building. The outcomes of the implementation of the original SEAP II is expected to result in electricity access for some 318,166 new customers, including 193,366 customers on-grid and 124,800 customers off-grid. The expansion and rehabilitation of the distribution network, as well as improvements in reliability under the original SEAP II program is expected to contribute to making more electricity available for consumers countrywide.

The proposed Additional Finance (AF) for SEAP II will scale up activities under Results Area 2 (Increase on-grid access for household and productive-use SME) for the additional amount of UA 16.4 Million (USD 22.97Million) to be focused mainly on rural areas. Deepening lighting coverage in rural areas is expected to yield significant benefits for households who have to do away with torches, wick and hurricane lamps. It will increase children’s study time at home and increase micro and macro level enterprises such as commerce, milling, welding or sewing. The activities to be scaled up under Results Area 2 of SEAP II will include increasing on-grid access by constructing additional 19.7 km of Medium Voltage (MV) and Low Voltage (LV) distribution lines, installation of distribution transformers, and prepaid meters to enable connection of 200 SMEs and 28,924 households to the grid. The number of customers connected to the network would measure the degree of additional access achieved by the program. This AF was discussed and agreed with the Government of Rwanda and these activities are detailed in Annex 3.

Exceptions to Bank Policies

Is approval of any policy waiver sought from the Board?	[] Yes [X] No
Has this been endorsed by Bank Management?	[X] Yes [] No
Does the Program require any exception to Bank policy?	[] Yes [X] No

ADF Loan Information

Loan Currency	UA
Interest type	N/A

Amortisation Rate	2.86% per annum in equal and consecutive semi-annual instalments payable on a Payment Date
Commitment charge	0.5% per annum on the undisbursed portion of the Loan shall begin to accrue one hundred and twenty (120) days after the date of signature of the Loan Agreement and shall be payable on a Payment Date
Service charge	0.75% per annum on the disbursed and outstanding balance of the Loan shall be payable semi-annually on a Payment Date
Tenor	40 years
Grace period	5 years

ADDITIONAL FINANCE REVISED RESULTS FRAMEWORK FOR SEAP II

Results Indicators	DLI (yes/no)	Unit of measure	Baseline (2017/2018)	REVISED End Target (2021/2022)	Revised Target values			Frequency	Date source/method	Responsible for data collection
					FY 18-19	FY 19-20	FY 20-21			
Impact										
Outcome										
Improve System Average Interruption Frequency Index (SAIFI) for 30/15 kV	No	Number of interruptions/customer-year	110.17	70.17	-8.00	-14.00	-18.00	Annually	REG/EDCL/EUCL quarterly and annual report. REG quality inspection report, EUCL summary of activities implemented	MININFRA and MINECOFIN
Improve System Average Interruption Duration Index (SAIDI) for 30/15 kV	Yes/DLI	Minutes/customer-year	20.85	14.85	-1.20	-2.10	-2.70	Annually	Same as above	MININFRA and MINECOFIN
Additional number of new household customers connected to the grid of which 52% are women	Yes/DLI	Number	485,994	706,202 (+28,954)	120,000	53,003 (+11,582)	47,205 (17,372)	Annually	Same as above	MININFRA and MINECOFIN
Additional number of productive-use customers connected to the grid	Yes/DLI	Number	4,176	6488 (+200)	734	1317 (+80)	261 (+120)	Annually	Same as above	MININFRA and MINECOFIN
Reduce Total System Losses	No	Percentage	19.6%	17.0%	-0.65%	-0.65%	-0.65%	Annually	Same as above	MININFRA and MINECOFIN
Additional number of new household customers provided with SHS of which 52% are women	Yes/DLI	Number	241,451	366,251	18,720	68,640	37,440	Annually	Same as above	MININFRA and MINECOFIN
Out put										
Installation of SCADA/DMS	Yes/DLI	Installation of DMS system	NO DMS	DMS installed and operationalized	Contract signed with supplier	Equipment installed	Operationalization of DMS	Annually	Same as above	EUCL
Additional length of LV distribution lines constructed	No	Circuit-km	12,356	19,683 (+10)	4,218	1,645 (+4)	1,463 (+6)	Annually	Same as above	MININFRA and MINECOFIN
Additional length of MV (30/15 kV) distribution lines constructed and/or upgraded	Yes/DLI	Circuit-km	5,204	6,008 (+9.17)	248	477 (+4)	80 (+5.17)	Annually	Same as above	MININFRA and MINECOFIN
Cumulative number of people receiving technical training on Planning, project management etc under the program of which 30% are women	No	Number	365	2,180	708	756	716	Annually	REG quarterly and annual reports, list of people trained, contract of experts procured.	MININFRA and MINECOFIN
Cumulative number people receiving training on financial management under the program of which 30% are women	No	Number	10	83	23	30	30	Annually	Same as above	MININFRA and MINECOFIN
Cumulative number of people receiving training on safeguard under the program of which 30% are women	No	Number	309	1,769	553	608	608	Annually	Same as above	MININFRA and MINECOFIN
Other										

Results Indicators	DLI (yes/no)	Unit of measure	Baseline (2017/2018)	REVISED End Target (2021/2022)	Revised Target values			Frequency	Date source/method	Responsible for data collection
					FY 18-19	FY 19-20	FY 20-21			
Approval of the ESSP (Energy Sector Strategy Plan)	No	NA	Draft ESSP	NA	NA	NA	NA	NA	MININFRA	MININFRA
Approval of the NEP (national electrification Plan)	No	NA	Draft NEP	NA	NA	NA	NA	NA	REG and MININFRA	REG and MININFRA
Implementation of the approved annual agreed capacity building and technical assistance program	Yes/DLI	NA	Implementation issue for capacity building and technical assistance	Agreed technical assistance and capacity program implemented	Implementation of the approved agreed capacity building and technical assistance program for the fiscal year 2018/19	Implementation of the approved agreed capacity building and technical assistance program for the fiscal year 2019/20	Implementation of the approved agreed capacity building and technical assistance program for the fiscal year 2020/21	Annual	MININFRA and MINECOFIN	MININFRA and MINICOFIN
Recruitment of an Independent Verification Agency (IVA)	Yes/DLI	NA	No IVA	ToR cleared by the Bank and IVA appointed	NA	NA	NA	NA	MININFRA and MINECOFIN	MININFRA and MINECOFIN

Note: (1) DLI: Disbursement-Linked indicators

1. INTRODUCTION

1.1. This Streamlined Appraisal Report (SAR) seeks the approval of the Board of Directors to provide Additional Financing, through ADF resources in the amount of UA16.4 million, to Rwanda's for Scaling Up Electricity Access Program Phase II (SEAP II - Program ID: P-RW-FA0-008). The Additional Financing (AF) represents 7.3% of the Bank's total commitment under SEAP II, which is UA 191million. Of this, ADB financing is EUR 165.59 million (UA 138m) (Loan No. 2000200003102) and ADF financing is UA 53million (Loan No2100150040243).

1.2. On 27th September 2018, the Boards of Directors of the African Development Bank and the African Development Fund approved the SEAP II (RBF)¹ to support the Government of Rwanda's efforts towards improving power supply reliability and increasing on and off-grid access in Kigali, and the Southern and Western provinces. The SEAP II Program provides 8.1% of the total financing cost (US\$ 1.909 Billion) required for the expansion and rehabilitation of the distribution network, as well as improvements in reliability that will contribute towards universal electricity access by 2024. SEAP II once completed, is expected to provide electricity access to 318,166 new customers, including 193,366 on-grid and 124,800 off-grid. It has four (4) Results Areas, namely:

- Results Area 1: Improve reliability of electricity supply with an allocated amount of UA 53.57 million (28.05%)
- Results Area 2: Increase on-grid access for households and productive-use with an allocated amount of UA 125 million (65.48%)
- Results Area 3: Increase off-grid access to renewable energy UA 7.26million, (3.80%)
- Results Area 4: Institutional strengthening and capacity building with a total amount of UA 5.09 million, 2.67%, of which includes allocations for the appointment of the Office of the Auditor General (OAG), as the Independent Verification Agency (IVA).

1.3. The loan has been effective since December 2018 and implementation is moving ahead as planned schedule, with the initial advance disbursement made on 21st December 2018.

1.4. The proposed Additional Financing (AF) aims at scaling up access to rural electrification while sustaining the momentum of the ongoing SEAP II focusing on connections in rural areas to increase social-economic activities and improves the quality of life for macro and micro level enterprises such as mills, hairdressers, copy shops, welding shops, kiosks, bars, small scale mining, restaurants, etc. Existing enterprises will also leverage the availability of power for expansion by extending operating hours or their range of products and services. Furthermore, health center, social and administrative facilities at Ndama and Rwambiharamba to be connected to the grid because of the additional finance will improve working condition and patient care, and allow the use of vaccine refrigerators and other laboratory and health equipment. Most importantly, for the users, the connections will reduce costs of electricity, as many rural households tend to pay up to three times more to meet their energy needs from portable diesel generators.

¹ ADB/BD/WP/2018/188,- ADF/BD/WP/2018/138.....

1.5 The Results Area 2, under the original SEAP II program intends to increase on-grid customer-base by connecting 318,166 new household and 2,112 SME customers, whereas the AF expects to add 28,954 new household and 200 SME's, bringing the cumulative total connection of new customers to 347,120 and 2312 respectively by the end of the program (see figure 1). By the end of the program, at roughly 70% of new customer will be in the rural areas.

1.6. Scaling up these activities is at the chore of the GoR's Energy Sector Strategic Plan (ESSP – 2018-2024) targets. As these activities will be mainstreamed into Results Area 2, disbursements will again be based on achievement of the enhanced, tangible, outputs/outcomes, highlighted in Section 1.4 above and in logical framework, as opposed to expenditures.

2. BACKGROUND AND RATIONALE FOR ADDITIONAL FINANCING

2.1. BACKGROUND

2.1.1. Achievements in the energy sector are among Rwanda's great success stories. The on-grid connections increased from 6% in 2009 to 36% in August 2018; off-grid access has more than doubled to 11.6%; annual new connections (supported by SEAP I, II and DP's) have doubled from 74,000 in 2012 to 154,000 in 2018, thereby placing the national electrification rate at 47.6%.² By the end of 2018, the grid connection had covered 100% hospitals, 92.1% health centres, 94.5% administrative offices and 77.2% primary and secondary schools. These connections are being pursued against other measures to reduce the tariffs for low-income households. The GoR subsidy level to the energy sector has been decreasing annually and the GoR is currently conducting an electricity cost of service study to inform revision of its policy on tariff classes in order to eventually apply cross subsidy.

2.1.2. Additionally, the country has taken giant leaps towards improving efficiency in the energy sector, which culminated in restructuring the key energy institutions. In 2014, the GoR created a separate Rwanda Energy Group (REG) as a holding company with two subsidiary entities; the Energy Utility Corporation Limited (EUCL) and the Energy Development Corporation Limited (EDCL). EUCL is in charge of day-to-day operations of power generation, transmission, distribution and sales to final customers. EDCL on the other hand, is responsible for developing both distribution, connections and access, developing new energy resources, and executing the least-cost power development plans. The reforms are paying off as the generation capacity has tripled from 76 MW in 2010 to 218 MW by June 2018 (comprising hydro 45.1%, Thermal (LFO and HFO) 26.7%, peat 6.9% and solar 5.6%, methane gas-to-power 13.2% and imports 2.5%). Rwanda has also made significant inroads to become Africa's pioneer of the Maximizing Financing for Development agenda, with a total of 14 independent power producers (IPPs) currently supplying power to REG (about 52% of the generation, capacity is under private ownership). Further, eight out of nine power generation project scheduled for commissioning between 2019 and 2024 are private sector investment.

2.1.3. The restructured institutions (REG and its subsidiaries) are implementing the SEAP II. The objectives of SEAP II are being complemented by other DPs, notably the, EU, JICA, World Bank, and GIZ. For instance, the World Bank supports a Development Policy Operation

² Republic of Rwanda, Ministry of Infrastructure, ESSP

(DPO) intended to mitigate a projected escalation of fiscal transfers by addressing operational efficiency, affordability and accountability of the electricity service. This DPO lays a solid foundation to achieve the outcomes of the SEAP II additional finance, as it sets to improve generation investment planning, often inconsistent with the least cost planning principles, procurement processes and the limited scope for tariff increases because of the already high cost of electricity. JICA on its programs to improve reliability of electricity supply and increase on-grid access and others. Such a multi-pronged approach, involving other DP's and the private sector, is the best way to optimize achievement of Rwanda's ambitious plans for rapid electrification, electricity systems extension and improvement in energy sector performance under the ESSP.

2.1.4. The GoR has implemented a subsidy regime that cost USD 57 million in 2015/16 fiscal year alone in its bid to ensure affordability of electricity supply and prop up the fledgling industrial base. These fiscal transfers to the electricity subsector are decreasing progressively every year and are used to cover the difference between the average production cost of electricity and the USD 0.21/kWh average tariff per unit sold. With subsidies at hand, the tariff regime announced at the end of August 2018 is pegged at USD 0.09/kWh (RWF 80/kWh) for large industries with some fixed costs, USD 0.14/kWh (RWF 126/kWh) flat rate for small industries, USD 0.21/kWh (RWF192/kWh) for domestic and commercial users, and a USD 0.10/kWh (RWF 89) lifeline tariff for vulnerable electricity consumers- a reduction from the January 2017 tariff regime. The RURA is conducting a fresh cost-of-service study with the aim of progressively adjusting tariffs towards cost-reflective levels and optimize cross subsidies. A new tariff regime is scheduled for end of the 2018/19 fiscal year.

2.1.5. Rwanda's approach to affordable universal access to electricity is exemplary in innovativeness, recognizing off-grid solutions as a viable option for remote and low-income households, while seeking to expand the grid in a financially responsible manner. It is in this regard that GoR has decided to utilize the balance of its ADF 14 allocation to address identified gaps in the SEAP II program and sustain the momentum in the delivery of its energy targets. The additional financing of SEAP II will therefore leverage Government's bid to use cutting-edge electrification models and modern geospatial tools to find cost efficient ways of expanding electricity access.

2.1.6. Rwanda's energy sector gains notwithstanding, the country still faces a number of challenges related to achieving universal access to affordable, sustainable and reliable electricity by 2024. SEAP II was therefore approved by the Board of Directors to address some of the demand and supply side constraints of the sector. The proposed additional financing will further enable the Government to scale up activities towards increasing overall access nationwide. This effort is complemented by contributions of other DPs through on-going measures to improve operational efficiency and quality of electricity services, which will eventually lead to lower cost of services and higher revenues for power utilities. It is against this backdrop that the additional finance seeks to help the Government balance the sector's supply and demand side issues, by focusing on connections in order to drastically expand coverage to under-served communities.

2.2. RATIONALE FOR ADDITIONAL FINANCING

2.2.1. The proposed additional financing of SEAP II will represent a critical step towards meeting GoR's efforts to speed up the delivery of the ESSP in fundamental ways, as explained below. It might be noted that, in the original program (SEAP II), the additional financing of UA 16.4 million had been anticipated (see Table 2.3 of the PAR) to cater for the uncertainty surrounding full mobilization of resources.

2.2.2. At the launch and during the initial phase of implementing SEAP II, the GoR identified important gaps in the activities that if not addressed at this stage will leave some rural communities in pockets of the planned project zones without access to electricity. In particular, the extension of the Kabarondo Kayonza Kiziguro (KKK) feeder under Activity A2-2 is necessary to connect a key health center at Ndama and the Rwabiharamba IDP model village in Nyagatare district with at least 400 households. Providing electricity connection to the 28,954 new customers including the a health center and 200 SME's at a different time will not be cost efficient and will delay expected benefits to rural communities concerned. Consequently, the GoR has submitted a request to the Bank and allocated additional resources under the PBA to address the identified gaps in the SEAP II target zones. Expeditious approval of the request will allow the activities in the identified gaps to benefit from economies of scale in bulk procurement of equipment, materials, services and works concurrently under SEAP II, and ensure that the identified activities are completed within the life of the SEAP II.

2.2.3. The Bank has so far provided more than UA 220 million specifically to scale up electricity access in Rwanda in addition to financing other key projects in the electricity sector. The Bank's first electricity access intervention in Rwanda has achieved over 90% completion rate with its implementation performance rating as *satisfactory*. So far, 318.564km MV lines, 581.806 km of LV lines, and two (2) electricity distribution substations have been constructed. In addition, 69 schools, 11 health centres, 52 administrative offices and 18,500 households' have been connected to the grid. In view of the satisfactory performance, the Government allocated UA 191 million in its ADF 14 operations for the SEAP II program under the RBF instrument. The RBF instrument provided the opportunity to strengthen *country systems* for projects delivery, and proved cost effective and efficient in project implementation and resource allocation as demonstrated below. Less than a year into implementation SEAP II, there has been noticeable achievement with respect to the target Disbursement Linked Indicators (DLIs) such that by January 2019:

- 36% of the 110,000 target connections, corresponding to 34,694 households and 96 SME's were connected to the grid,
- 11% of the off-grid access target corresponding to 28, 984 households were provided with solar home systems, (included both private sector distributed systems and government supplied systems)
- System Average Interruption Frequency Index (SAIFI) reduced to 101.7 from 110.17 in June 2018, and the System Average Interruption Duration Index (SAIDI) decreased to 16.55 from 20.85 in June 2018 as part of improvements in system reliability

Other notably achievements includes (i) approval of the Energy Sector Strategic Plan (ESSP) (ii) approval of the National Electrification Plan (NEP) to demarcate national on-grid and off-grid electrification (iii) appointment of the Independent Verification Agency (IVA) (iv)

establishing the RBF technical unit and recruiting staff for the financial departments of EUCL and EDCL. Detailed achievements of SEAP II, thus far, is found in Annex 4.

2.2.4. The speed at which GoR is implementing measures agreed in the SEAP II program attests to the continuous government commitment to delivering demonstrable results on ground and justifies the further use of RBF as an incentive to light up Rwanda. Further, the AF resources will be channelled to activities where the contractor is on-site finalizing the feeder to the KKK substation in Nyagatare district of Rwanda. Consequently, it will require no mobilization time and hence the need for expeditious connection of the health centre to the grid will be fulfilled. The expected socio-economic benefits arising lighting up the health centre and other social facilities in this rural community that presently have no electricity will be profound, and will improve livelihoods through enhanced economic activities.

2.2.5. The AF would also lead to benefits for GoR by rationalizing expenditures without compromising service quality, through lower operating costs of connecting additional customers. It also aims at prioritizing on-grid connection of energy-intensive industries and SME's as measures to reduce the cost of doing business in the country. Besides its 13% contribution of the total USD 3.3 Billion required to achieve overall ESSP targets, the GoR mobilizes resources (loan and grants) through other development partners. However, for this AF, the ADF resources proved most effective because of the timing, need and the location. To this effect, the AF will augment SEAP II resources to provide the required fiscal buffer that is necessary to achieve universal electricity access in an affordable, sustainable, and reliable manner.

2.2.6. The AF will directly help achieve one of the intended transformational outcomes of the Rwanda Country Strategy Paper (CSP) and the aspirations of the New Deal for Africa, which aims to contribute to Africa's energy sector transformation by increasing energy production, scaling-up access, improving affordability, reliability and energy efficiency. Furthermore, the AF addresses the priorities articulated in the thematic areas of "Light up Africa" and "Improve the quality of life for the African people". The Bank's capital investment goes beyond financing as it contributes to knowledge transfer and international best practice, while strengthening institutional capacity.

2.2.7. Consistent with the RBF Guidelines, additional financing should be provided only for: (a) unanticipated significant changes to expenditure parameters required to achieve the original program results or DLIs; or (b) new or modified results, to be reflected in new or modified DLIs, that aim to scale up the impact or development effectiveness and CES sustainability of the original program. The decision for AF should be based on the same considerations as the original program financing.

Given the objective of increasing electricity access rate in the country, the GoR intends to dedicate the remaining amount of its ADF 14 allocation to fast tracking its electricity access program. In this regards, the RBF is the most suitable instrument to use.

3. PROPOSED CHANGES

3.1. OBJECTIVES

3.1.1. There will be no changes to the original objectives and design of SEAP II. The only change will be in Results Area II, under which the activities will be scaled-up. The objectives of the proposed AF therefore will remain the same as the original SEAP II Program. As such, there are no changes or updates proposed to the technical, fiduciary, gender, social and environmental assessments contained in the (PAR) that was presented to the Board on September 2018.

3.2. DISBURSEMENT-LINKED INDICATORS (DLI) AND RESULTS FRAMEWORK

3.2.1. Under SEAP II, the four DLIs (listed in Section 1.2) were developed in consultation with GoR, based on the Program's Results Framework and results chain. In the proposed AF, the results framework of SEAP II has been updated to indicate the scaled up activities of Results-Area 2, in order to reflect the additional 28,954 household customers, the 200 productive-use SME customers, and the 19.7km long (30/15 kV) distribution lines. The DLI will be linked to the 40% and 60% achievements for the year 2019/2020 and 2020/2021 respectively

3.2.2. The achievements of these activities are embedded in DLI 2 of SEAP II and disbursements will be effected in accordance with the originally approved schedule outlined in the appraisal report of SEAP II. Likewise, the duration and completion of the AF will correspond to the original program implementation period of SEAP II, as shown in the revised DLI matrix in Annex 2. Details of the DLIs, including the disbursement arrangements and verification protocols, are provided in Annex II.

3.3. INSTITUTIONAL AND IMPLEMENTATION ARRANGEMENTS

3.3.1. This is consistent with the original PAR of SEAP II whereby implementation of the program will be undertaken by REG and its subsidiaries. Since the AF is only focused on Results Area 2, which EDCL is currently implementing, EDCL will continue to do so under the AF. The Ministry of Infrastructure (MININFRA), jointly with the Ministry of Finance and Economic Planning (MINECOFIN), will continue to provide overall oversight and strategic guidance.

3.4. PROGRAM EXPENDITURE

3.4.1. The SEAP II Program's expenditures will largely remain the same, except for activities under Results Area II, component that will involve construction of MV and LV (30 and 15KV) distribution lines, installation of distribution transformers, and installation of prepaid meters as detailed in Annex 3, and summarized below in Figure 1 and II

- Extension of 9.17km of MV and 10km of LV lines from the Gabiro switching station to the Ndama and Rwabiharamba villages in the district of Nyagatare District, estimated at UA 0.31million to electrify the Ndama health centre, the Rwabiharamba Integrated Development Project (IDP) Model village and the surrounding communities.

- Connection of 200 more SME customers, estimated at UA 2.12million;
- Connection of 28,954 more new households' estimated at UA 13.97million ,

Figure 1: Expenditures for the additional financing under results area 2

Results Areas and DLIs		Unit	Additional Financing allocation per area and per DLI	% of allocation per area and per DLI	Additional Financing Allocation ADB/ ADF		ADF
					FY 2019/2020	FY 2020/2021	
Total RBF financing 2018-2022		UA million					
Results Area 2: Increase on-grid access for household and productive-use customers		UA million	16.400	100.0%	6.560	9.840	16.400
DLI-2.1	Additional number of new household customers connected to the grid of which 52% are women	UA million	13.956	85.1%	5.582	8.374	13.956
DLI-2.2	Additional number of SME's customers connected to the grid	UA million	2.132	13.0%	0.853	1.279	2.132
DLI-2.3	Additional length of MV (30/15 kV) distribution lines constructed and/or upgraded	UA million	0.312	1.9%	0.125	0.187	0.312

Figure 2: Activities funded by the additional financing under Results Area 2

	Results Area 2: Increase access to on-grid electricity for household and for productive usage		Location
A2-1	Investment in Kicukiro, Nyarugenge, Gasabo,) that will allow household connection of 51,254 household, 55km of MV line, 2127,13Km of LV, and 115 Transformers	Kigali city 100% Access Program	Kigali province in Nyarugenge/Kicukiro/Gasabo districts
A2-2	KKK Feeder extension to Gabiro switching station	extension of MV line to increase access in the area and increase REG revenue	Eeastern province in Kayanza, Ngoma and Gabiro districts
A2-2 (AF)	Additional Financing (USD 0.43M)	Additional extension of 9.17 Km of MV and 10Km LV line from KKK to Ndama HC and Rwabiharamba IDP village	Nyagatare District
A2-3	30kV Single circuit Nyagasozzi-Kavumu	Extension of 36km Power Supply to Nyagasozzi and Kavumu Cells in Musanze District	Northern province in Musanze district
A2-4	30kV Double Circuit line Bugerera to Airport	Extension of 8 km Power Supply to Bugesera Airport	Eastern province in Bugesera district
A2-5	Investment for productive usage	Connect 2112 productive usage customers	Countrywide
A2-5 (AF)	Additional Financing (USD 2.98M)	Additional 200 SME's consumers	Countrywide
A2-6	30kV Double circuit line	Extension of 9.3 km of MV Power Supply to Gako beef project	Eastern province in Bugesera district
A2-7	30kV Double circuit line (From Gabiro Ss to Gabiro Commercial Farm)	new 30kV 43 km distribution line to Gabiro Commercial Farm	eastern province in Gatsibo district
A2-8	140,000 Pre-paid meters, poles, cables and other accessories needed for connecting HHs	140,000 House holds will be connected to the Grid including fill in connection	Countrywide
A2-8 (AF)	Additional Financing (USD 19.57M)	Additional 28,954 households connected to the grid including fill in connection	Countrywide

3.4.1. Thus, these new activities financed by the additional financing will significantly increase the overall 2021/2022 targets of the SEAP II program, as bulleted below and illustrated in Figure 2:

- The targeted number of new household customers connected to the grid will increase from 677,248 to 706,202;
- The targeted number of productive-use customers connected to the grid will increase from 6288 to 6488;
- The total length of MV distribution lines will increase from 5,999km to 6,008km
- The total length of LV distribution lines will increase from 19,673km to 19,683km

Figure 3 : SEAP-II revised targets with the Additional financing

Results Indicators	DLI(yes/no)	Unit of measure	Baseline (2017/2018)	End Target (2021/2022)	Additional Financing	REVISED End Target (2021/2022)
Impact						
Outcome						
Additional number of new household customers connected to the grid of which 52% are women	Yes/DLI	Number	485,994	677,248	+28954	706,202
Additional number of productive usage customers connected to the grid	Yes/DLI1	Number	4176	6288	+200	6488
Out put						
Additional length of LV distribution lines constructed	No	Circuit-km	12,356	19,673	+10	19,683
Additional length of MV (30/15 kV) distribution lines constructed and/or upgraded	Yes/DLI1	Circuit-km	5,204	5,999	+9.17	6,008

3.5. VERIFICATION PROTOCOL

3.5.1. There are no changes in the verification protocol from the PAR approved by the Board in September 2018. The verification will be conducted annually as per the calendar in the original SEAP II program.

4. APPRAISAL SUMMARY

4.1. TECHNICAL ASSESSMENT

4.1.1. Strategic relevance: The activities covered by the additional financing are still aligned with the original SEAP-II program. They will specifically contribute to the Government’s effort to provide adequate, reliable and affordable electricity services in order to drive growth, while reducing inequality and poverty for Rwanda to become an upper middle-income country by 2035.

4.1.2. Technical soundness: The additional financing still focus on the core business activities of the REG; distribution expansion, and last mile connectivity. EDCL, which implements part of SEAP-II, will remain the sole implementing entity of the AF as management and staff have demonstrated their technical and organizational capacity for development of assets for electricity distribution. Moreover, EDCL has demonstrated good performance in the implementation of Bank funded projects and proven in-house capacity for planning, design,

construction and supervision of electricity distribution networks. Thus, it is expected that EDCL will continue to deliver good results in the implementation of the SEAP-II and SEAP II AF programs. Although EDCL has the right experience and adequate capacity to implement the AF program, and are currently doing so under the original SEAP II, it is important to increase such capacity for timely and efficient delivery of results under the AF program in light of scaled-up activities. In this regard, GoR will continue to expedite the recruitment of the necessary technical assistants required identified under original SEAP II program.

4.2. ECONOMIC AND FINANCIAL ANALYSIS

4.2.1. The economic and financial analysis of the additional financing is consistent with the original program. The activities will profoundly influence the sector and lead to financial gains to the utilities. Financial benefits and associated costs are projected to be aligned with both the socio-economic and macroeconomic fundamentals of Rwanda. The updated financial analysis, undertaken as part of this additional finance, shows a Net Present value (NPV) of US\$ 159M, using a real discount rate of 6.0%. The Financial Internal Rate of Return is 8.7 % in real terms, which is more than the weighted average cost of capital for REG of approximately 6% real. This is consistent with Rwanda's higher energy cost per tariff ratio. The key conclusion is that the additional financing under SEAP-II is also economically viable from a country perspective, with an Economic Net Present Value (ENPV) of US\$ 157, relative to the Economic Discount Rate of 12% and an Economic Internal Rate of Return (EIRR) of 16.7%.

4.3. FINANCIAL MANAGEMENT

4.3.1. An updated review of the Public Financial Management (PFM) system reveals continuous adequacy for the AF, with an overall fiduciary risk rating of moderate, covering procurement, financial management and governance. Specifically, the Financial Management (FM) assessment of the operation concludes that the FM systems pertaining to the Program are acceptable to implement the RBF and provide reasonable assurance that the proceeds of the additional finance will be used for their intended purpose in an economical, efficient, effective, accountable, and transparent manner.

4.4. PROCUREMENT

4.4.1. An updated assessment of the national procurement system concludes that Rwanda's procurement legal and regulatory framework are laid on the fundamental procurement principles of economy, efficiency, transparency and equity. The overall perceived risk in public procurement continues to be moderate; the procurement system is generally robust and is supported by sound oversight mechanism and accountability systems to enable the country to achieve value for money and to ensure use of public funds in an effective and transparent manner. Therefore, in accordance with the "*Procurement Policy and Methodology for Bank Group Funded Operations*" (BPM), dated October 2015 and in line with the Bank's policy on Result Based Financing (RBF) procurement of goods, works and services financed by the Bank under this AF program will continue to be undertaken in accordance with the Borrower's Procurement System (BPS) as consistent with SEAP II.

4.4.2. In addition the GoR is committed to further modernize its procurement function to improve compliance, efficiency, transparency, fair competition, value for money and controls in public procurement. Accordingly, Rwanda has in place a policy of modernization and

professionalization of procurement function to help achieve these objectives. GoR has developed and rolled-out e-Procurement System across the entire country from national level to districts and sub-districts which is the first of its kind in the Africa Region where the e-GP is rolled out across all agencies, at all levels and covering all procurement categories. Further, they have enacted a law to establish “Procurement Professionals Association” to maintain professional standards and certification of procurement professionals. However, there is still need for proper capacity building support in the areas of technical design, negotiations and contracts management to ensure smooth and timely delivery of procurement activities envisaged under the RBF SEAP II Program. These capacity-building activities are already part of SEAP II, to be implemented accordingly to the agreed calendar.

4.5. ENVIRONMENTAL & SOCIAL ASSESSMENT and GENDER MAINSTREAMING

4.5.1. The original SEAP II Program was rated Category 2 because some of the program activities could generate moderate to low potential E&S impacts, albeit these are likely to be localized and limited in scope. The activities associated with the AF are similar in scale the original SEAP II. The potential impacts of the proposed activities would generate moderate to low impacts and these do not materially change the overall category of the SEAP II Program. A limited Strategic Environmental Social Assessment (SESA) was prepared and published by the Bank (16 August 2018) under SEAP II, as per the RBF policy requirements and consistent with the Bank’s Integrated Safeguards System (ISS). All commitments detailed in the SESA and ESMP of the SEAP II (including institutional capacity building) apply to the AF, as there will be no major changes in the E&S framework of the country and the operation.

4.5.2. As per Gender Marker System, project has been categorized as Category 3 under SEAP II and there will be no changes in the Gender framework.

4.5.3. Based on the above positive social impact of SEAP-II, in particular; social inclusion, poverty alleviation; improving access to disadvantaged areas of society through the implementation of SHS, the GoR has opted to on-grant the additional financing rather than on lend the additional financing to EDCL. In addition, the program will also contribute towards the country’s socio economic transformation and inclusive growth.

4.6. CO-FINANCE

The Government of Rwanda (GoR) received a USD 840,000 SEFA project preparation grant for the implementation of the Rwanda Green Mini-Grid (GMG) Program. It aims to support the Governments effort to scale up GMG projects to pave way for strong private sector participation in the GMG space. The project entails identification, feasibility studies and roll-out plan for 20 solar or hydro sites, which once completed will be financed by the Bank. The mini-grid connections resulting from the SEFA GMG program will contribute towards scaling up DLI 3 targets of SEAP II: “Improved off-grid access to renewable energy”.

5. LEGAL INSTRUMENTS AND AUTHORITY

5.1. OVERALL LEGAL ASPECTS

The legal documents for SEAP-II Additional Financing include the following: (i) A Loan Agreement between the ADF and the Borrower ;(ii) A Subsidiary agreement between the Borrower and EDCL, for *on granting* the proceeds of the ADF loan on terms and conditions acceptable to the Fund; and (iii) A Program Agreement between the ADF and EDCL.

5.2. CONDITIONS ASSOCIATED WITH THE FUND'S PROPOSED FINANCING

5.2.1. Entry into Force Conditions: The conditions precedent to the entry into force of the ADF Loan Agreement will be in accordance with Section 12.01 of the General Conditions Applicable to African Development Fund Loan Agreements and Guarantee Agreements (Sovereign Entities).

5.2.2. Conditions Precedent to First disbursement: The obligation of the Fund to make first disbursement from the AF shall be conditional upon entry into force of the Loan Agreement, and the satisfaction of the following conditions by the Borrower:

- i. the execution and delivery of Subsidiary Agreement between the Borrower and EDCL in form and substance satisfactory to the Fund;
- ii. submission of evidence that the Subsidiary Agreement has been duly authorised by the Borrower and EDCL and is legally binding upon the parties in accordance with its terms;
- iii. the execution and delivery of Program Agreement between the Fund and EDCL in form and substance satisfactory to the Fund;
- iv. submission of evidence in form and substance satisfactory to the Fund including a Program Results Verification Report (“PRVP”) indicating that the said DLI(s) for which disbursement is requested has / have been fully achieved or partially achieved (for DLIs for which partial disbursement is allowed as specified in the DLI Matrix) as required under the relevant DLI Verification Protocol. The PRVR submitted by the IVA under the Initial Loan Agreements may include the achievement of DLI(s) under this Loan Agreement provided that it clearly indicates the activities achieved under this Loan Agreement and is in a form and substance acceptable to the Fund;
- v. Submission of a letter from the Borrower’s Ministry of Finance and Economic Planning confirming the acceptance by the OAG to verify the additional financing activities as further described in Schedule I (Program Description) to this Agreement with the OAG acceptance letter annexed to same.

5.1.3. Condition Precedent to Subsequent Disbursements. The obligations of the Fund to make subsequent disbursements of the Loan shall be subject to the submission by the Borrower of evidence, in form and substance satisfactory to the Fund, including a Program Results Verification Report indicating that the said DLI(s) for which disbursement is requested has / have been fully achieved or partially achieved (for DLIs for which partial disbursement is allowed as specified in the DLI Matrix) as required under the relevant DLI Verification Protocol.

5.1.4. Compliance with the Fund's Policies: This program complies with all applicable Bank Group policies and guidelines.

6. RECOMMENDATION

6.1 Management recommends that the Board of Director of the African Development Fund approve an ADF loan of an amount not exceeding UA 16.4 Million to the Republic of Rwanda as additional financing for the Scaling Up Electricity Access Program II for the purposes, and subject to the terms and conditions, stipulated in this report.

ANNEX 1: PROGRAM RESULTS CHAIN AND DLI (NO CHANGE)

Results Areas	Activities	Intermediate Indicators/Outputs	Outcomes
Results Area 1 : Increased power system reliability	<ul style="list-style-type: none"> • Upgrade of 30/15kv line • Reconducting of 110kv distribution line • Upgrade of transformers • Construction and or connection of MV feeders • Rebalancing of feeders load • Preparation of tender document, Procurement, installation and operationalization of SCADA/DMS 	<ul style="list-style-type: none"> • Number of transformers of 5 kVA and above upgraded • Additional feeders constructed.. • Reduction in SAIDI and SAIFI 	<ul style="list-style-type: none"> • Reduction in SAIFI • Improved SAIDI for 30/15 kV(DLI1-1) • SCADA/DMS installed and operationalized (DLI1-2)
Results Area 2: Increase on-grid access for household and productive-use customers (NO CHANGE)	<ul style="list-style-type: none"> • Construction of MV lines • Construction of LV lines, installation of distribution transformers • Service drops, including meters, and ready-boards • Procurement of pre-paid meters • Connection of residential customers • Connection of productive-use customers. 	<ul style="list-style-type: none"> • Increase of sales in kWh and in RWf • Additional length of KM of MV line constructed and/or upgraded (DLI2-3). • Additional length of LV line constructed 	<ul style="list-style-type: none"> • Number of household customers connected to the grid of which 52 % are women (DLI2-1). • Number of productive-use connected to the grid (DLI 2-2)
Results Area 3: Increase off-grid access to renewable energy	<ul style="list-style-type: none"> • Preparation of SHS implementation plan • Preparation of tender document • Installation of stand-alone solar systems 	<ul style="list-style-type: none"> • Cumulative number of people provided with off-grid solar home systems 	<ul style="list-style-type: none"> • Number of new household customers provided with solar home system of which 52% are women (DLI3-1)
Results Area 4: Institutional Strengthening and Capacity Building	<ul style="list-style-type: none"> • Preparation of ToR for the IVA • Preparation of ToR for technical assistance experts • Preparation of ToR gender policy and performance management framework. • Procurement of firm to undertake the studies under the program • Prepare bidding document for supply of safety tools and protective equipment • Design and implement capacity building and process improvement programs • National electrification plan completed and approved • Energy sector strategy plan completed and approved 	<ul style="list-style-type: none"> • Implementation of national electrification plan • Implementation of productive-use connection plan, with regular review of impact and sustainability • Cumulative number of staff in REG, EDCL and EUCL receiving technical training on energy planning, rural electrification, construction and supervision of power infrastructure, O&M, loss reduction, standards, network protection, power system efficiency and project management (included in DLI4-1). • Cumulative number of staff in REG, EDCL and EUCL receiving fiduciary training on audit/compliance and procurement (included in DLI4-1) • Cumulative number of staff in REG, EDCL and receiving E&S training including environmental protection, gender mainstreaming and health and safety (included in DLI4-1) • Finalize study on performance management framework, gender policy (included in DLI4-1) 	<ul style="list-style-type: none"> • Increase efficiency in program implementation • Sector capacity and institutions strengthened: • Improved cost-effectiveness of Program • Improved skill development • Timely program implementation • Timely results verification

ANNEX 2: REVISED DISBURSMENT-LINKED-INDICATORS (DLI) MATRIX

Results Areas and DLIs		Unit	Original Loan allocation per area and per DLI	Additional Financing allocation per area and per DLI	% of allocation per area and per DLI	Total disbursed from Additional Financing in USD million			Additional Financing Allocation ADB/ ADF	
						FY 2019/2020	FY 2020/2021		ADB	ADF
Total RBF financing 2018-2022		USD million	270.05							
Results Area 1 : Increased power system reliability		USD million	75.64							
DLI-1.1	Improve System Average Interruption Duration Index (SAIDI) for 30/15 kV	USD Million	49.16							
DLI-2	Installation of SCADA/DMS	Installation of DMS system	26.47							
Results Area 2: Increase on-grid access for household and productive-use customers		USD million	176.54	16.4	100.0%	6.55	9.83			16.4
DLI-2.1	Additional number of new household customers connected to the grid of which 52% are women	USD million	96.92	13.97	85.2%	5.57	8.38			13.97
DLI-2-2	Additional number of SME's customers connected to the grid	USD million	32.15	2.12	13.0%	0.85	1.27			2.12
DLI-2-3	Additional length of MV (30/15 kV) distribution lines constructed and/or upgraded	USD million	47.48	0.31	1.9%	0.12	0.19			0.31
Results Area 3: Increase off-grid access to renewable energy		USD million	10.23							
DLI-3-1	Additional number of new household customers provided with SHS of which 52% are women	USD million	10.23							
Results Area 4: Institutional Strengthening and Capacity Building		USD million	7.64							
DLI-4-1	Implementation of the approved annual agreed capacity building and technical assistance program	USD million	6.14							
DLI-4-2	Recruitment of an Independent Verification Agency (IVA)	USD million	1.50							

ANNEX 3: ADDITIONAL FINANCING ACTIVITIES UNDER SEAP II

- The objective of the on-going SEAP II RBF is to improve the power supply reliability and increase on grid and off grid access in Kigali city and countrywide. Its focus areas are consistent with GoR’s high-level targets established in the ESSP (2018-2024). SEAP II started in 2018 and will be implemented for 3 years, ending in 2021. The four (4) key Results Areas are: (i) Improve reliability of electricity supply (ii) Increase on-grid access for household and productive-use (iii) Increase off-grid access to renewable energy (iv) Institutional Strengthening and capacity building.
- The additional financing of USD 22.97 million will focus on only Results Area II. This includes increasing on-grid access for household and productive-use by providing additional 19.7 km (30/15kv) lines. It also includes providing 200 productive-use and 28,924 on-grid customers with prepaid meters (table below). The activities under this component will involve the construction of medium voltage (30 and 15KV) distribution lines, additional lower voltage (LV) line and installation of distribution transformers, as well as procurement and installation of prepaid meters. The number of customers connected to the network would measure the degree of additional access achieved by the program.

Table 1 : Summary table of additional finance activities

DL1: 2	Project	Description	Type	Location	Estimated Cost (USD)	Purpose
A2-2	KKK Feeder extension to Gabiro switching station	Extension of MV line to increase access in the area and increase REG revenue	Extension of MV Line	Eastern province in Kayonza, Ngoma and Gabiro districts		
	Addition activity		Extension of 9.17 Km of MV and 10Km LV line from KKK to Ndama HC and Rwabiharamba IDP village	Nyagatare District	0.31 M	Project Will serve Ndama health centre, Rwabiharamba Model village
A2-5	Investment for productive-use	Connect 2,112 productive-use customers	Productive-use	Countrywide		
	Addition activity		Additional 200 SME’s consumers	Countrywide	2.12M	Project will serve productive users and but also increases electricity penetration rate
A2-8	140,000 Pre-paid meters, poles, cables and other accessories needed for connecting HHs	140,000 Households will be connected to the Grid (including Fill in connection)	Construction of 5,180 km of LV will be constructed	Countrywide		
	Addition activity		Additional 28,954 households connected to the grid including fill ins	Country wide	13.97M	To serve identified areas especially Districts with low access rates including

ANNEX 4: ACHIEVEMENTS REGISTERED UNDER SEAP II

A Number of achievements have been registered since the RBF was approved and signed off in September 2018. Some of these are in administrative where government policies, strategies and plans were approved and actual standards and staff designation was done. There are also actual technical results on which the program is based on that were realized during the last three months. Below is a summary of activities achieved based on the list in the Program action Plan (PAP):

1. Polices strategies and Plans adopted

i) **Energy Sector Strategy Plan (ESSP)** : is a dynamic document that was approved in September 2018 with the purpose of ensuring that the targets set out in the National Strategy for Transformation (NST-1) and National Energy Policy (REP) for the next medium term (2018/19 to 2023/24) are effectively delivered on. The plan serves to translate policy directives and principles into concrete measures necessary to reach medium-term targets, reflecting current resource constraints, risks and uncertainties. Below is a summary of some of the key targets embed in the plan:

- Generation capacity increased to ensure that all demand is met and a 15% reserve margin is maintained.
- Reliability of electricity supply improved: average number of power interruptions per year reduced to 14.2 and average number of hours without power to 91.7.
- Household access to electricity increased to 100%.
- Productive-use access to electricity increased to 100%.
- Existing, New major national and urban roads provided with street lighting.
- Losses in the transmission, distribution networks and commercial reduced to 15%.
- Halve the number of HH using traditional cooking technologies to achieve a sustainable balance between supply and demand of biomass through promotion of most energy efficient technologies
- Petroleum strategic reserves increased to cover three months' supply.

ii) **National Electrification Plan:** was approved in October 2018 and it is document that highlights the demarcation of where On-grid and off-grid electrification in Rwanda will be carried out. The plan gives a recommended villages as follows;

- Grid Extension Villages: that will require the development of new infrastructure (Transformers, MV and LV lines) and
- Off-Grid Villages: where micro-grids or solar kits will be developed and installed

2. Administrative and technical Achievements made:

iii) **Designation of focal Person** As stipulated in the financing agreement, the Rwanda Energy Group (REG) designated staff and focal point that will consistently following up the implementation of the DLI of the RBF program.

iv) **Recruitment and staffing of all positions in the financial departments duly filled starting with the EUCL Director of Finance / CFO:** The recruitment of the EUCL Director of Finance has progressed since September 2018 and process is ongoing

- v) **Apply standard technical specifications:** The Implementing Agency, REG/EDCL has Reticulation standards that were approved by REG management and are used in the implementation of construction projects. The same standards will be applied during the implementation of the activities that are in this RBF program.

vi) **Program DLI achievements**

System reliability The Rwanda Energy Group (REG) through its subsidiary the Energy Utility Corporation Limited (EUCL) currently records the system interruptions as of end January 2019, the system average interruption duration index (SAIDI) is at 16.55.

Additional number of new household customers connected to the grid of which 52% are women: The additional number of connections that were made for both households and productive-use by end December 2018 were 34,694 and 96. The above results we realized based on the activities achieved by the GoR on table 2 below

Improved off-grid access to renewable energy: The additional number of households provided with solar home systems (SHS) in total were 28,984. These include both private sector distributed systems and the systems supplied by government to the venerable and social centers.

- vii) **Disbursement:** All prior actions were met by December 2018 and the Government was received the advance payment of 25%. As per disbursement schedule, the next one is scheduled for April 2019, and it is on track

Table 2 : GoR achievements so far under SEAP II

Results Areas under SEAP II	Accomplishments
Area 1: Improve reliability of electricity supply	<input type="checkbox"/> A1-19: 1.5 km out of 3.8km 15kV already completed. <input type="checkbox"/> A1-23: 30kV Kabarondo substation – Nasho irrigation tender completed.
Area 2: Increase on-grid Access for household and productive usages	<input type="checkbox"/> A2-1: 8561 new Households has been connected to the grid <input type="checkbox"/> A2-4: 30kV Double circuit underground line Bugesera to airport, work is on-going <input type="checkbox"/> A2-6: 30kV single circuit line connecting Gako water pumping station completed <input type="checkbox"/> A2-8: 58,343 household already connected to the grid. <input type="checkbox"/> A2-5: 176 productive use customers have been connected.
Area 3: Increase off-grid access to renewable energy	<input type="checkbox"/> 9315 solar home system have been installed already
Area 4: Institutional Strengthening and capacity building	<input type="checkbox"/> 5 different training programs took place with certification <input type="checkbox"/> Approval of the ESSP (Energy Sector Strategy Plan). <input type="checkbox"/> Designation of staff and focal point for the Technical unit. <input type="checkbox"/> Approval of Off-grid strategy. <input type="checkbox"/> Preparation of ToR for the three agreed technical assistance experts in capacity building. <input type="checkbox"/> Recruitment and staffing of REG CFO suite (EUCL Director of Finance/CFO)- contracts signed. <input type="checkbox"/> Appointment of procurement specialist and a 2nd is in the process of being recruited. <input type="checkbox"/> Preparation of SESA, including a robust ESMP for Results Areas 1, 2 and 3 activities.

ANNEX 5: MAP – KKK FEEDER EXTENSION

