



Energising Development (EnDev) Rwanda

Mini - Grid Results-based-Financing Project
Operations Manual
December 2021

Content

1.	Introduction.....	5
1.1	Mini-Grid Project Context.....	5
1.1.1	Rwanda Context.....	5
1.1.2	EnDev Rwanda.....	5
1.1.3	RBF as an approach.....	6
1.2	Project implementors.....	7
1.2.1	Energising Development (EnDev).....	7
1.2.2	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.....	7
1.2.3	Urwego Bank.....	7
2.	Overview of Rwanda Mini-Grid RBF Project.....	8
2.1	Duration of Project.....	8
2.2	Project Objective and Targets.....	8
2.3	The RBF model.....	9
2.4	Detailed RBF process.....	10
2.5	Eligibility criteria.....	11
2.5.1	Technology and technical requirements.....	12
2.6	RBF incentive structure.....	12
2.6.1	Incentive amount and maximum amount.....	12
2.6.2	RBF incentive requirements.....	12
2.6.3	Incentive revisions.....	12
2.7	Financing.....	13
2.7.1	Pre-financing.....	13
2.7.2	Company liquidity/cash.....	13
2.7.3	Debt.....	14
2.7.4	Additional grants.....	14
2.7.5	Financing timelines.....	14
2.8	Government regulation and requirements.....	14
3	Pre-qualification and full application process, requirements, and criteria.....	16
3.1	Application process (pre-qualification and full application).....	16
3.1.1	Pre-qualification.....	16
3.2	Full application.....	18
3.2.1	Application requirements and documentation.....	18
3.2.1.1	Feasibility study document.....	18
3.2.1.2	Application document and additional submission requirements.....	18
3.2.1.3	Business model and site-specific requirements.....	20
3.2.1.4	Technical requirements.....	20
3.2.2	Application criteria.....	21
3.2.3	Review of applications and procedure of evaluation.....	22
3.2.4	Site visit.....	23
3.2.5	Company/Project selection and funding limitations.....	23
3.2.6	Approval and rejection.....	23
3.3	Government Approvals.....	23
3.3.1	Steps under the Ministerial Guidelines for Mini-Grid Development.....	24
3.4	Service Level Agreement (SLA-contracting).....	24
3.4.1	Mini-grid government process and contracting.....	25
4	Implementation.....	26

4.1 Construction Period	26
4.2 Mini-Grid RBF project deadline	26
4.3 Connections	26
4.4 Claiming, commissioning, and verification process	26
4.4.1 Step 1: Claiming	27
4.4.1.1 Document check: Claim Form, Remote Monitoring Data and Expenses	27
4.4.1.2 Claim Form eligibility and completeness check	27
4.4.2 Step 2: Pre-commissioning technical visit and review of remote monitoring data	28
4.4.3 Verification	29
4.4.4 Step 3: Commissioning	29
4.4.4.1 Remote verification	29
4.4.5 Commissioning Visit	29
4.4.5.1 Independent Field & Phone Verification	30
4.5 Conditions for disbursement	31
4.6 Disbursement	31
5 Reporting & Audits	32
5.1 Reporting	32
5.1.1 Reporting requirements for companies	32
5.1.2 Reporting requirements for EnDev	32
5.1.2.1 Annual reporting to Headquarter	32
5.1.2.2 Reporting to EDCL	32
5.1.3 Monitoring & Reporting requirements for Urwego Bank	33
5.2 Audits	33
5.2.1 Urwego Bank	33
5.2.1.1 Internal audit	33
5.2.1.2 External audit	33
5.3 Internal Review	33
6 Governance Structure & Stakeholders	34
6.1 Governance Structure	34
6.2 Stakeholders	34
6.2.1 EnDev Rwanda	34
6.2.2 Urwego Bank	35
6.2.3 Government stakeholders	35
6.2.4 Other	35
6.2.4.1 Independent Verification Agents (IVA)	35
6.2.4.2 External Technical Consultants	36
6.2.4.3 Enabel PSPE Programme	36
6.2.4.4 Renewable Energy Fund (REF)	36

Abbreviations

BRD	Rwanda Development Bank
BNR	National Bank of Rwanda
CAPEX	Capital Expenditure
DFS	Detailed Feasibility Study
EnDev	Energising Development Rwanda
EDCL	Energy Development Corporation Limited
ESSP	Energy Sector Strategic Plan
FCDO	UK's Foreign, Commonwealth & Development Office
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GoR	Government of Rwanda
IVA	Independent Verification Agents
MININFRA	Ministry of Infrastructure
MOA	Memorandum of Agreement
NEP	National Electrification Plan
NEP	Nigeria Electrification Project
OPEX	Operational Expenditure
PSPE	Private Sector Participation in the Generation and Distribution of Electricity from Renewable

Sources Project.

RBF	Results-based Finance
RDB	Rwanda Development Board
REF	Renewable Energy Fund
REG	Rwanda Energy Group
RURA	Rwanda's Utilities Regulatory Agency
RWF	Rwandan Francs
SHS	Solar Home Systems
SLA	Service Level Agreement
UEF	Universal Energy Facility

1. Introduction

This Operations Manual governs the Mini-Grid Results-based Financing Project (the “Mini-Grid RBF”) by Energising Development (EnDev) Rwanda and Urwego Bank and explains the operating procedures of the Mini-Grid RBF.

The objective of this Operations Manual is to establish standard processes for the Mini-Grid RBF Project’s internal procedures, as well as the interactions between Urwego Bank, GIZ/EnDev Rwanda and Energy Development Corporation Limited (EDCL), the companies, and other stakeholders, to ensure transparent, efficient, and effective implementation of the Mini-Grid RBF project. This document is part of the grant agreement between Urwego Bank and GIZ Rwanda and any section can be changed upon mutual agreement between parties. Any contracts entered with subcontractors shall be consistent with the procedures laid out in this Operations Manual.

1.1 Mini-Grid Project Context

1.1.1 Rwanda Context

In 2018, the Government of Rwanda (GoR) set the ambitious target of universal access to electricity by 2024, planning to reach this goal with 52% of the population serviced through the grid and 48% of the population by off-grid technologies, comprising solar home systems (SHS) and mini-grids. To guide investments in electrification and achieve the access targets, Rwanda Energy Group (REG) and its subsidiary EDCL have developed a 7-year National Electrification Plan (NEP 2018-2024), which demarcates on-grid and off-grid areas.

In August 2021, the GoR has revised their targets to electrify 89.9% of the population through on-grid electrification and 10.1% through off-grid (1.2% mini-grid and 8.9% SHS) with 182 villages to be electrified through mini-grids in Rwanda.

EDCL is responsible for planning and executing Rwanda’s off-grid strategy to meet national access targets. EDCL is responsible for the review and approval of all mini-grid feasibility studies to be approved under the GoR’s *Ministerial Guidelines for Mini-Grid Development*. EDCL is therefore EnDev’s main implementing partner. EnDev will also work closely with Rwanda’s Utilities Regulatory Agency (RURA) which is responsible for licensing, tariffs and technical requirements for mini-grids, as well as the Ministry of Infrastructure (MININFRA) on the political level.

1.1.2 EnDev Rwanda

The EnDev Rwanda Mini-Grid Results-based Financing Project (the “Mini-Grid RBF”) is part of EnDev’s programming for 2021-2024. The project builds upon EnDev Rwanda’s previous RBF project, which ran from June 2014-September 2021.

On the global level, from 2013-2020, EnDev’s Results-Based Financing Facility piloted 17 projects across 14 countries in Africa, Asia and Latin America covering a wide range of modern energy technologies to enhance

energy access markets with funding provided by UK Aid through the Foreign, Commonwealth & Development Office (FCDO)¹. Implementing agencies were GIZ, CLASP, HIVOS, Practical Action and SNV.

EnDev's facility was the first to support mini-grid development in Rwanda and became a leading partner in the sector offering much needed grants as well as technical and enabling environment capacity support. When EnDev's first mini-grid RBF was launched in 2014, no privately-owned mini-grids, developed through formal channels, existed in Rwanda. This was due to the following: lack of financial viability and appropriate financial support for companies; uncertainty in the legal and regulatory framework conditions; lack of demand due to limited income of end-user and lack of productive use; lack of skills and insufficient access to funding for companies, with risk-averse financial institutions unwilling to lend to the sector. EnDev was able to improve the business case for several mini-grids, proving that they can be a valuable option for rural development. However, the market remains nascent with only 10-15 mini-grids operational, all which required financial support to reconcile business viability with affordable tariffs. Limited demand, access to finance and policy uncertainty remain key challenges. Therefore, market growth still depends on mechanisms to better understand the viability of different business models, to identify financing opportunities, and to create investor confidence.

The new Mini-Grid RBF has made some structural adjustments to the previous programme based on challenges and lessons learned. This new phase will focus on solar projects that have existing feasibility studies and in areas that will not be connected to the grid according to new NEP. Through a strategic partnership, EnDev will only select companies participating in Enabel's PSPE programme (section 3), which are eligible under the NEP revision, to reduce lead times and resources spent on project preparation and technical assistance.

1.1.3 RBF as an approach

RBF is a modality where a funder (this can be a donor, an implementing organisation, a national government, or other institution) disburses funds to a recipient (in this case a private mini-grid company) only once a pre-agreed set of results is achieved and verified. This approach involves three key principles: Firstly, payments are made only after the results are achieved; secondly, the recipient may independently choose how to achieve these results; and lastly, independent verification of results is the trigger for disbursement.

The primary aim of the RBF at EnDev is to stimulate market development, unlock private capital and motivate investment in off-grid and often hard-to-reach markets in order to increase energy access. Based on an assessment of market opportunities and market barriers, financial incentives are designed to help strategic market actors to scale innovative business models offering quality energy access products and services at a competitive price. The approach also requires the RBF to leverage private investment in the form of equity, debt, or other private investment. RBF aims to encourage economies of scale and/or efficiencies that can result in reduced unit prices over time, so that subsidies can be reduced or removed in the long term. Where necessary and feasible, complementary technical assistance is provided including market research; policy support; awareness raising; and the provision of capacity development services to the private sector.

¹ To access a portfolio-wide report by EnDev on lessons learnt from 7 years of implementation, click here: [EnDev RBF-Lessons-Learnt-Report 2021.pdf](#)

The RBF approach has now been widely adopted as a mechanism to accelerate and scale up energy access. EnDev's RBF has encouraged and spurred further donor commitment and investment such as SEforALL's Universal Energy Facility (UEF) and the Nigeria Electrification Project (NEP), which are using the mechanism to support privately-run mini-grids.

1.2 Project implementors

1.2.1 Energising Development (EnDev)

EnDev is an international flagship programme for providing energy access, which has reached well over 20 million people in over 20 countries around the world. EnDev's drive is to improve the lives of the most vulnerable, ensuring no one is left behind. Economic opportunities and green jobs are created by building modern off-grid energy markets based on renewable energy, which improve the energy supply of off-grid households, social institutions, and small and medium-sized companies. It is an approach which aims to empower structural, self-sustaining change; kickstarting market and sector development.

By the end of 2019, EnDev had supported 22.9 million people to gain access to electricity or improved cooking technologies. EnDev also reached 27,400 social institutions, 53,900 micro, small and medium-sized enterprises, and 23,500 people have additional employment. Through EnDev interventions, greenhouse gas emissions were reduced by more than 2.4 million tonnes per year.

The driving force behind EnDev is the partnership of Germany, the Netherlands, Norway, and Switzerland; donors who are committed to accelerating energy access and socio-economic development. The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and the Netherlands Enterprise Agency (RVO.nl) act as the principal agencies for programme coordination.

1.2.2 Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

EnDev's activities in Rwanda are implemented by GIZ. As such, GIZ headquarters and the GIZ Rwanda country office support the Rwanda Mini-Grid RBF in all administrative and contracting matters, including setting up the grant agreement with Urwego Bank Plc. and contracting independent verification agents (IVAs).

1.2.3 Urwego Bank

Urwego Bank is a microfinance bank and registered as a bank under Rwandan law operating in the country since 1997. Urwego Bank was accredited by the National Bank of Rwanda (BNR) in 2007. It was declared as a licensed bank in the Microfinance Bank category.

Urwego Bank manages the RBF fund on behalf of EnDev Rwanda. The relationship between Urwego Bank and EnDev Rwanda is formalised through a grant agreement between Urwego Bank and GIZ headquarters.

2. Overview of Rwanda Mini-Grid RBF Project

The Rwanda Mini-Grid RBF project provides results-based financing to pre-qualified and approved developers that have developed feasibility studies under Enabel's *Private Sector Participation in the Generation and Distribution of Electricity from Renewable Sources (PSPE) project*.

The Rwanda Mini-Grid RBF project will hold one expression of interest, which will invite companies for pre-qualification. Those companies that pass the pre-qualification will be invited to submit full applications.

The subsidy under this programme will be a fixed per-connection payment of EUR 350 per connection (payable as RWF, subject to change see section 2.6.3), ensuring the subsidy doesn't exceed 70% of the CAPEX cost. The total incentive amount will be determined by the number of verified connections installed.

2.1 Duration of Project

The EnDev Rwanda Mini-Grid RBF commences in January 2022 and will conclude in September 2024.

2.2 Project Objective and Targets

The main objective of the Mini-Grid RBF is to accelerate access to electricity for households, social institutions and small and medium-size business in off-grid areas as defined by the NEP through the provision of RBF financing to eligible mini-grid companies.

The project targets access indicators including household, productive use and social institutions as outlined in the table below. The Rwanda Mini-Grid RBF project aims to support the development of 2-4 mini-grids and work closely with the REF to enable access to finance. Additionally, through the RBF, the project aims to leverage up to EUR 100,000 in equity raised by developers and stimulate up to EUR 300,000 in additional debt or equity (by banks and/or investors).

Project results	Targets (EnDev adjusted)	Other target dimensions/indicators
People: Access to Electricity	2,076	Annual tCO2e savings: 398
SI: Access to Electricity	16	
PU: Access to Electricity	128	

Table 1: EnDev Rwanda Mini-Grid project structure

2.3 The RBF model

The Rwanda Mini-Grid RBF project offers RBF incentives to companies developing and operating mini-grids to supply electricity to off-grid connections. The general principle is that payments are made against pre-specified results. Therefore, companies are required to take on the full risk until the delivery of the contracted results. This means there are no advance payments. At EnDev Rwanda, the fund support and oversight are managed by a fund manager.

The key actors involved in implementing the Rwanda Mini-Grid RBF are:

1. EnDev GIZ as the provider of funding and main project implementer together with EDCL
2. Urwego Bank, as the fund manager which supports the day-to-day management of the RBF mechanism, contracts the qualified companies and disburses the incentives.
3. Independent verification agents, who verify claimed results and remote monitoring data to trigger disbursements.
4. Private companies as developers of the mini-grids and recipient of the RBF incentives.

Figure 1 depicts the general structure of the project.

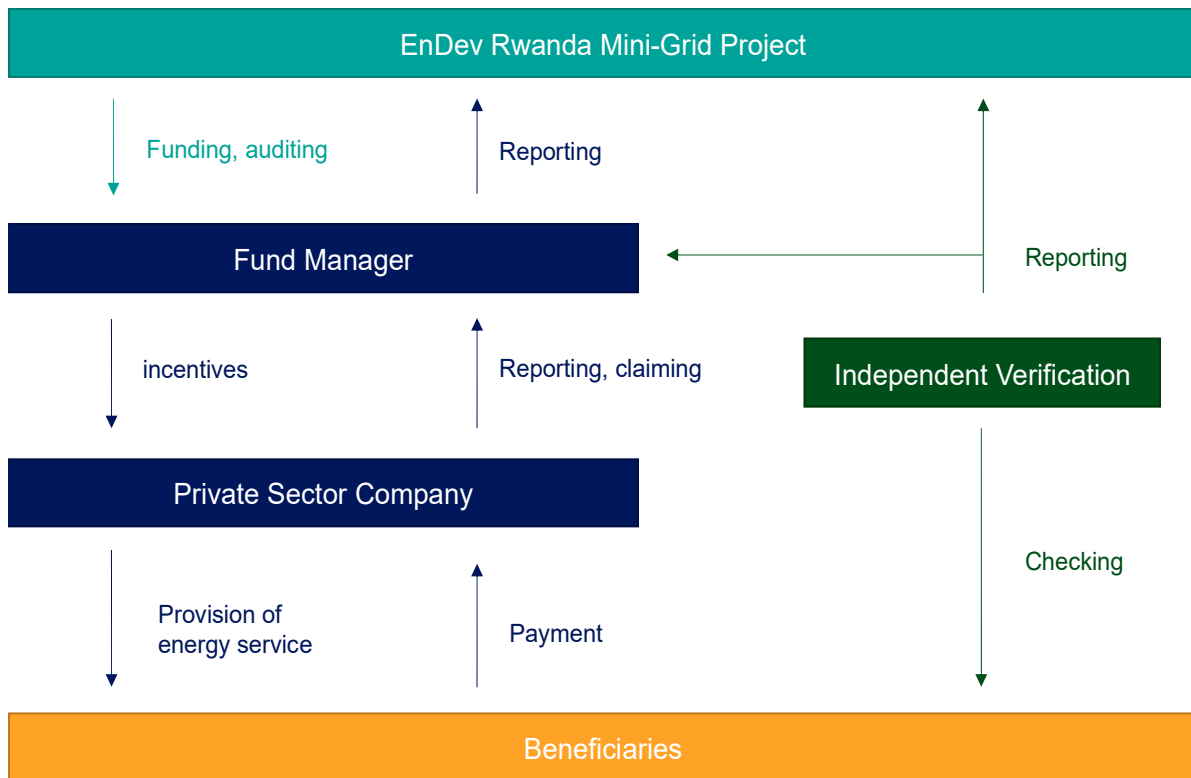


Figure 1: EnDev Rwanda Mini-Grid project structure

2.4 Detailed RBF process

Below, the Rwanda Mini-Grid RBF process is outlined through steps.

Step	Activity	Responsible
1	Pre-qualification	
1.1	Expression of interest for pre-qualification announced	Urwego Bank
1.2	Submission of expression of interest by deadline	Applicant
1.3	Assessment according to criteria and short-listing	Urwego Bank
1.4	4-eye check and approval of shortlist by EnDev	EnDev
1.5	Notification of results to applicants	Urwego Bank
2	Full application	
2.1	Invitation to successful applicants to submit full document and requirements	Urwego Bank
2.2	Submission of application by deadline	Applicant
2.3	Compilation of documents and sharing with EnDev	Urwego Bank
2.4	Review of applications	EnDev, External Consultant(s)
2.5	One round of feedback + meetings	EnDev, Applicant
2.6	Resubmission of application/support documents to EnDev	Applicant
2.7	Final review by EnDev	EnDev, External Consultant(s)
2.8	Scoring and ranking of applications	EnDev, External Consultant(s)
2.9	Site visits of top-ranking applications	EnDev, External Consultant(s)
2.1	Finalization of scoring and ranking	EnDev, Urwego Bank
2.11	Selection of applications based on ranking and budget	EnDev
2.12	Notification of results to applicants	Urwego Bank
3	GoR approval of successful applicants	
3.1	Memorandum of Agreement's (MoA) submitted and signed	Applicant
3.2	Submission of application to EDCL for detailed feasibility review	Applicant
3.3	Feedback from EDCL and approval of feasibility/application document	EDCL
3.4	Submission of application to RURA for tariff negotiation and licensing	Applicant
3.5	Feedback from RURA and approval of application document	RURA
4	Contracting	
4.1	Preparation of Service Level Agreement (SLA)	Urwego Bank
4.2	Review and finalization of SLA	Urwego Bank, EnDev
4.3	SLA shared with eligible mini-grid company	Urwego Bank
4.4	Meeting held between Urwego Bank, EnDev and Mini-Grid developer to discuss terms and conditions	Urwego Bank, EnDev, Developer
4.5	SLA signed between parties	Urwego Bank, Developer, GIZ/EnDev
4.6	Urwego bank shares the signed SLA with EnDev	Urwego Bank

5	Project implementation	
5a	Project implementation - Access to Finance	
5.1	Submission of project approval/SLA, final feasibility/application to Enabel PSPE and REF team	EnDev
5.2	Meeting to present and discuss initial business model and financing	EnDev, Enabel, REF
5.3	Regular follow up on Access to Finance progress	EnDev, Enabel, REF
5b	Project implementation - Construction	
5.1	Monthly updates on progress (phone/email)	EnDev, Urwego Bank, Developer
5.2	Mid-term site visit (once construction has begun)	EnDev, Urwego Bank, External Consultant, Developer
6	Claiming	
6.1	Meeting to discuss claim form and requirements	Urwego Bank, EnDev, Developer
6.2	Claim submission: Claim form, remote monitoring data and expenses	Developer
6.3	Document check	Urwego Bank
7	Commissioning and Verification	
7.1	Pre-commissioning technical site visit and review of remote monitoring data	External consultant, EnDev
7.2	Commissioning: remote verification data check prior to commissioning visit	External consultant, EnDev
7.3	Commissioning visit	EnDev, Urwego Bank, External Consultant, EDCL
7.4	Field and phone verification sample created	EnDev, Urwego Bank
7.5	Independent verification conducted	IVA
7.6	Approval of Technical Commissioning, Remote monitoring report and IVA Report	EnDev
8	Disbursement	
8.1	EnDev submission of technical commissioning report, remote monitoring report and IVA report to Urwego bank	EnDev
8.2	Urwego Document check	Urwego Bank
8.3	Urwego bank to prepare fund transfer, get approval and disburse fund	Urwego bank
8.4	Notification of payment to the company + Request company to confirm	Urwego Bank
8.5	Fund receipt confirmation	Developer
8.6	Urwego bank shares scanned fund disbursement documents with GIZ/EnDev	Urwego Bank

Table 2: EnDev Rwanda Mini-Grid RBF process

2.5 Eligibility criteria

Interested applicants must meet all the requirements to pre-qualify prior to invitation to submit a full application document.

The Mini-Grid RBF specifically targets potential mini-grid projects for which feasibility studies have been developed under Enabel's *Private Sector Participation in the Generation and Distribution of Electricity from Renewable*

Sources (PSPE) project. Therefore, developers with projects outside of the PSPE project are ineligible. This approach has been chosen in view of the limited size of the fund and to ensure project timelines can be met (as the feasibility studies have been reviewed by multiple actors, resulting in a shorter project preparation phase) and that the sites are designated as mini-grid sites under the revised NEP.

The Mini-Grid RBF supports privately-owned, for-profit mini-grid developers. Specific requirements are outlined in Section 3.

2.5.1 Technology and technical requirements

The principal technical requirements are stated below and further defined in Section 3:

- Mini grids must comply with all prevailing regulatory requirements, as outlined by RURA's Guidelines on Minimum Technical Requirements for Mini-Grids.
- Mini grids must be built up to the Main Grid Standards and the Rwanda Grid Code to enable potential future connection to the national grid.
- All mini-grids must be solar powered (may include diesel generation for back-up)
- All mini-grids must deploy smart meters that enable remote monitoring.

More information on technical requirements can be found in section 3.2.1.4

2.6 RBF incentive structure

2.6.1 Incentive amount and maximum amount

The EnDev Mini-Grid RBF has set a flat RBF grant amount per connection. The incentive amount has been set at EUR 350 per mini-grid connection with a maximum cap set at 70% CAPEX.

This number was derived through historical data and modelling to estimate the level of subsidy that will establish viability at an acceptable tariff level. The subsidy will also be capped at 70% CAPEX according to the cost inputs provided by the developer.

There is no maximum cap per site or company. However, the maximum available incentives under this fund are EUR 300,000.

2.6.2 RBF incentive requirements

The company will provide the number of connections (through a claim form and access to remote monitoring) and CAPEX costs (with invoices where possible) to determine the incentive amount, which will be approved by EnDev Rwanda. The number of connections will be capped once incentives exceed 70% CAPEX.

2.6.3 Incentive revisions

EnDev Rwanda will assess and choose mini-grid projects based on the application criteria (Section 3). Once these projects are selected and go through the application process, the maximum incentive budget per company will be applied and calculated.

Once all successful projects are selected, and if the incentive amount across projects is observed as either too high or too low, an overall adjustment of the per connection incentive amount may be recommended overall and implemented by EnDev to correct for market adjustments and potential errors in the model. This review will be data-driven across all the successful applications based on the CAPEX, OPEX, demand analysis and approved tariff by the relevant authorities. This review and adjustment will be transparent to ensure that the incentive level meets the funding gap to enable the project's commercial viability. This will result in an adaptation of the Operational Manual to reflect the adjusted cost per connection.

2.7 Financing

2.7.1 Pre-financing

The Rwanda Mini-Grid RBF requires that participating companies take full investment risk and pre-finance their projects through equity and/or debt as incentives are only paid out after successful verification of results.

In the pre-qualification and full application, companies must demonstrate possession of sufficient financial resources to develop, construct, commission and operate the proposed mini-grid project. This includes demonstrating a sufficient level of company liquidity/cash (Section 2.7.2) and a financing plan which can include commercial finance such as debt (Section 2.7.3) and in some cases, grants (Section 2.7.4).

2.7.2 Company liquidity/cash

Companies are required to demonstrate they have sufficient available liquid assets to pre-finance the costs of implementing their proposed project at the pre-qualification and full application stage. The company must demonstrate that they have 30% of the project CAPEX (15% at pre-qualification and the full 30% for the application). This can include proof of liquid assets in a company bank account, cash-equivalent asset class or a letter of commitment to fund the project from a related party (for example, parent or partner company).

If the company is working with a partner company, supplier and/or other, the company must submit with the letter of commitment both proof of funds of the related party and the agreement between the two parties. Urwego Bank will only enter into an agreement with the eligible company and will not commit to fund any other parties.

If the company does not satisfy the above requirements to pre-finance the implementation at the time of the application but can demonstrate that they are likely to earn or raise sufficient resources in an acceptable timeframe, the fund may permit such applicants to progress, on the condition that they provide evidence of their ability to earn or raise sufficient cash resources to implement the project. This can include letters of commitment from lenders or investors, proof of delayed payments from customers or other documentation that demonstrates the likely availability of sufficient cash to fund the project.

Company liquidity and proof of funds will be considered in the scoring criteria (please see section 3).

2.7.3 Debt

If companies are considering using commercial debt sources or other debt i.e., supplier loan, they must outline their plan and potential private sector creditors in their financing plan. Companies are not required to show proof that a loan has been acquired. Urwego Bank is also able to provide a letter outlining the contractual terms between Urwego Bank and the company to any interested creditor.

Companies can also apply for a loan through the REF Window 3, administered by Rwanda's Development Bank (BRD), which provides direct financing to eligible mini-grid developers to finance up to 70% of construction of renewable-energy based mini-grid systems. BRD will use its own credit risk appraisal and due diligence.

EnDev, together with Enabel's PSPE project², can support applicants through the loan application process at BRD. EnDev support can also be extended toward applications at other financial institutions. This includes presenting and discussing the technical and financial model with the financial institution, following up with any government of district institutions on documentation.

2.7.4 Additional grants

Companies must disclose if the site(s) for which they are applying are being funded by any other grant sources. If the successful applicant has secured other grant sources, EnDev may allocate an incentive amount proportionate to a contribution which will not exceed 70% of the total CAPEX. The admissibility of other grants will be assessed on a case-by-case basis to ensure compliance and that each institution can attribute results accordingly.

Companies also need to disclose any upstream grants (i.e. grants to the supplier of their technology) or technical assistance.

Concessional repayable debt is not considered as a grant.

2.7.5 Financing timelines

Due to strict project timelines, successful companies will be offered a specific period to raise their pre-financing, after which Urwego Bank and EnDev can decide to cancel the SLA and offer the grant to another company. As funds are earmarked for each project, this is a precaution to ensure that all incentives are disbursed by the end of the project period. The period can be extended if the company provides sufficient proof that pre-financing will be secured imminently.

2.8 Government regulation and requirements

During the inception and design of this programme in 2021, the GoR updated its off-grid targets. Originally set at meeting 48% of electricity needs through off-grid solutions in the Energy Sector Strategic Plan (2018/19 – 2023/24) (ESSP), EDCL published revised targets to the NEP in August 2021 whereby 10.1% of electricity needs are to be met through off-grid electrification, with 89.9% to be met through on-grid electrification by fiscal year 2023/2024.

² Enabel's PSPE project runs until December 2022

Mini-grid development in Rwanda is aligned to the NEP, in which mini-grid sites are demarcated. Under the new revision, a share of 182 villages (equivalent to 1.2%) are proposed for mini-grid development.

The process of Mini-Grid development in Rwanda is outlined in the ***Ministerial Guidelines for Mini-Grid development (MININFRA, 2019)***. Unsolicited proposals are required to go through a 5-step process outlined below in Section 3.3. EnDev Rwanda will work closely with EDCL to align with this process.

Companies are also required to consider the ***Simplified Licensing Framework for Rural Electrification*** and the ***Guidelines on Minimum Technical*** Requirements for Mini-Grids published by RURA.

3 Pre-qualification and full application process, requirements, and criteria

Prospective applicants to Rwanda’s Mini-Grid RBF 2022-2024 must be pre-qualified to be eligible to submit full project applications. Following a successful pre-qualification, successful applicants will be invited to submit a full application document. This section outlines the application process, requirements, criteria and selection process.

3.1 Application process (pre-qualification and full application)

Urwego Bank will hold an expression of interest for pre-qualification. Once a project has passed the pre-qualification round, the company will be invited to submit a full application document. They will be provided with sufficient time to develop their proposal document and supporting documents. The application process is outlined below.

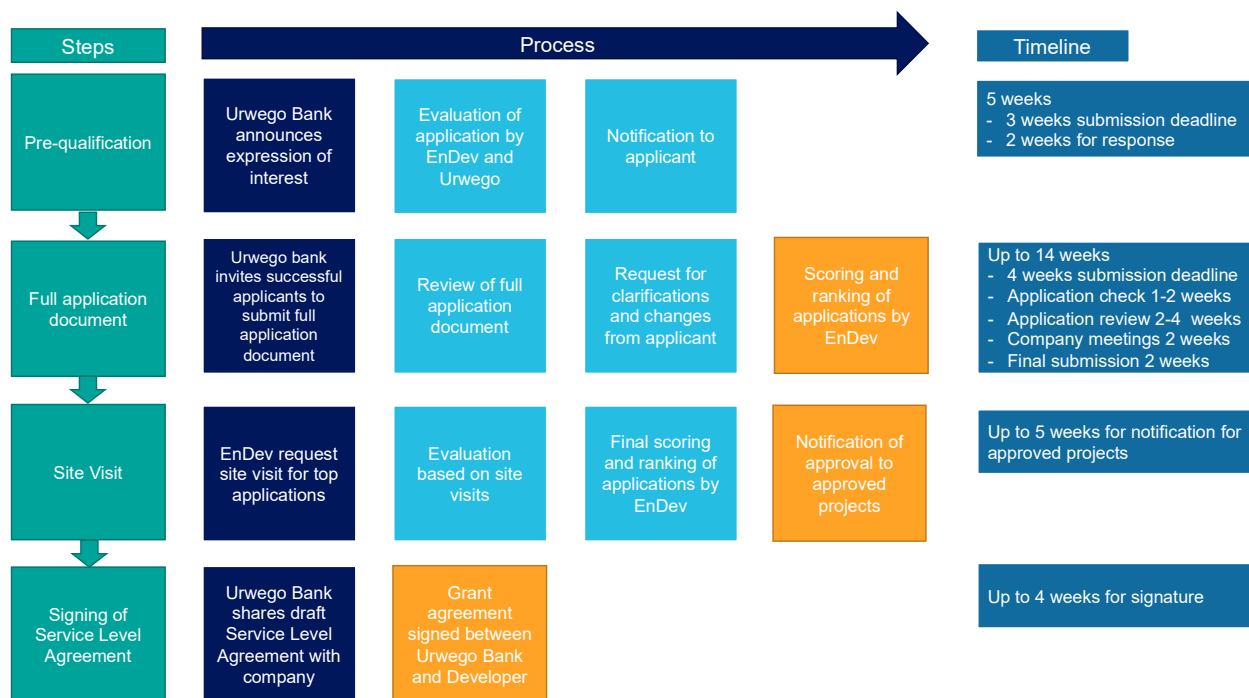


Figure 2: Application process

3.1.1 Pre-qualification

For the pre-qualification round, Urwego Bank will hold a call for expression of interest and require applicants to submit documents within 3 weeks. Urwego Bank, together with EnDev Rwanda, will evaluate all applications to confirm whether the prospective applicant meets the pre-qualification requirements. Urwego Bank will fill out the pre-qualification checklist and a decision recommendation to EnDev Rwanda for review. EnDev Rwanda will review the pre-qualification application and provide their comments toward the final recommendation. Urwego Bank will communicate the results to the applicant within 2 weeks, whereby applicants will be rejected and/or

invited to submit a full application. In the event of a disagreement on the decision, Urwego Bank and EnDev will discuss the result – if no consensus is reached, the EnDev Programme Manager will make a final decision. Urwego Bank will communicate the final decision to the applicant. All documents listed below in Table 3 must be submitted (unless a satisfactory reason for delay can be provided).

Pre-qualification does not guarantee access to funding from the Rwanda Mini-Grid RBF. Once an application is verified and selected as pre-qualified, they will be invited to submit a full application. Companies can submit more than one application if their proposals meet the criteria identified in the table below.

Pre-qualification requirements	
Company	
Criteria	Documentation to be submitted
The company is registered with the Rwanda Development Board (RDB) as a private company or with the Rwanda Cooperative Agency (RCA) as a cooperative	RDB Certificate of domestic registration or RCA registration certificate
The company is registered and compliant with the RSSB (Social Security)	RSSB official certificate of social security clearance
The company is registered and compliant with the RRA (Taxes)	RRA official certificate of tax clearance
The company holds a commercial bank account	Bank account number
The company has relevant experience related to mini-grids, off-grid electrification, solar and/or other	Company description, structure, and activities
Feasibility Study	
The company has a feasibility study developed under Enabel's Private Sector Participation in the Generation and Distribution of Electricity from Renewable Sources (PSPE) project	Feasibility study developed under Enabel's PSPE project
The project developer provides for the connection of at least 40 paying connections	Feasibility study developed under Enabel's PSPE project
Technical	
The proposed mini-grid is a solar mini-grid	Feasibility study developed under Enabel's PSPE project
Financial	
Proof of funds	Account statements and/or other proof that the developer has or will

	have a minimum of 15% of the project cost available.
NEP eligible	
The proposed site is in an off-grid area as outlined in the National Electrification Plan	Provision of location details; province, district, sector, cell, village

Table 3: Pre-qualification requirements

3.2 Full application

3.2.1 Application requirements and documentation

Applicants that successfully pre-qualify will be invited to submit a full application and will receive notification from Urwego Bank on the required documentation, deadline and method of submission.

Applicants will be provided maximum 4 weeks to submit all application documents.

The applicant will fill out an application document as well as the additional documents as outlined in the sections below.

3.2.1.1 Feasibility study document

Under the full application, the feasibility study developed under Enabel's PSPE programme will need to be transferred to the GoR/EDCL mini-grid feasibility study template. This will ensure that the developer can send their final application document for the necessary technical and tariff approvals by EDCL and RURA as outlined in the **Ministerial Guidelines for Mini-Grid Development**. It is also recommended that in addition to EnDev Rwanda requirements, the developer follow EDCL's "Technical requirements for Mini-Grid Proposals and RURA's **Simplified Licensing Framework for Rural Electrification** and the **Guidelines on Minimum Technical Requirements for Mini-Grids**. Applicants must comply with all policy and regulatory frameworks in Rwanda.

Applications must be in English, and the project costs must use the currency in which they are incurred i.e. according to the supplier or proforma invoice.

Prior to the application deadline, applicants can submit questions which should be submitted via email to Urwego Bank. Submitted questions and answers may be shared more widely across all applicants (i.e. via a FAQ) if found to provide clarity to the other applicants.

3.2.1.2 Application document and additional submission requirements

The table below outlines the additional documentation requiring to be submission. Any documents not submitted in pre-qualification must be submitted at this time.

Required documents	Information requested
EnDev Application Document (to be provided by Endev Rwanda when company is invited to apply)	<ul style="list-style-type: none"> - Company organization <ul style="list-style-type: none"> o Description of company activities including activities relevant to mini-grids, solar and off-grid electrification o Company Organigram o Gender composition of company - Description of internal controls including accounting, book-keeping and management systems in place
Solar Mini-grid Feasibility Study Template (as provided by EDCL)	<ul style="list-style-type: none"> - Project presentation - Information about the developer - Socio-economic analysis - Technical study - Business Model - Financial study - Work plan
Annexes – additional documents and certificates	<ul style="list-style-type: none"> - Company related information (required) <ul style="list-style-type: none"> o CVs of staff working on the project o Financial accounts for preceding 2 years (preferably audited) o Proof of 30% equity - Relevant permissions (if available, or describe status) <ul style="list-style-type: none"> o A copy of the Memorandum of Agreement with the Government (o RURA registration and/or license o A copy of the District Authorization approving planned activities at the site o Where applicable, an Environmental Impact Assessment Certificate (or exemption) - EnDev excel financial model or financial model in another format (one is required) - Customer information/community engagement <ul style="list-style-type: none"> o Pre-agreement customer list with signatures (where available) o Proof that the applicant has engaged with the community via a letter from the site’s local village leader, agreeing on the mini-grid installation (where applicable) - Pro-forma invoices of equipment and other costs (where available) - Additionality <ul style="list-style-type: none"> o Companies must submit a notarized official letter that mini-grid and connections for which they are applying for under the EnDev Rwanda Mini-Grid RBF have not been funded wholly or partially by any other grant. If companies have been funded by another grant, they must disclose this information in the above letter. - Any documents that were not provided in the pre-qualification phase should be submitted at the application phase

Table 4: Application submission requirements

3.2.1.3 Business model and site-specific requirements

In the EDCL solar mini-grid feasibility study template (provided by EDCL), the applicant is required to provide details on the business model and financial model.

For the business model, the company will identify a tariff and discuss the operations and management of the mini-grid site.

For the financial model, the company will identify all costs (CAPEX and OPEX), sources of financing, estimated revenues as well as its cash flow projections and debt analysis. To calculate the revenues, cash flow and debt calculations, EnDev will provide an excel financial model format to make the appropriate calculations. EnDev will be available to support training in the use of this model.

3.2.1.4 Technical requirements

A successful technical commissioning is a prerequisite for the disbursement of the RBF incentive. Urwego Bank will provide successful developers with a technical commissioning checklist, as an annex to their SLA, which is the basis of the technical evaluation. The technical commissioning led by EnDev, and an external consultant (with engineering background), will verify the following: that the installed equipment meets the standard technical specifications as per the design specifications in the application, that the plant is well functioning and meets performance criteria, and whether the mini-grid complies with the EnDev and GoR safety and quality requirements for electrical installations at the generation, distribution and connections. Any modifications that may happen during the site construction differently from the initial technical design, should be notified to EnDev without delay for the official verification and approval. Successful applicants will be provided with minimal technical requirements to guide their installations.

The general technical requirements are listed below:

- Generation Technology: The required generation technology under this RBF is AC Solar PV. The project may use diesel generators as back up of less than 50 % over a year. Only recyclable batteries and other environment friendly storage are eligible to be used. The system shall enable regular remote monitoring of the energy generation.
- Meters: All mini-grids must deploy smart meters that enable remote monitoring. Companies must use smart metering solutions that are network-connected and enable a minimum of daily reporting of electricity consumption and average voltage. These shall also comply with Rwanda Standards Board (RSB) technical standards for meters.
- Distribution system: The distribution system must be grid compatible and follow Rwanda's Main Grid Standards and the Rwanda Grid Code to allow for potential connection to the national grid in the future.
- Standards: Mini grids must comply with all prevailing regulatory requirements, as outlined by RURA's Guidelines on Minimum Technical Requirements for Mini-Grids.

All equipment should be in line with IEC and ISO standards.

3.2.2 Application criteria

The application criteria assess 6 criteria, as follows: the companies' experience and track record of working in the off-grid and/or solar sector and the experience of its staff; ensuring company level due diligence and compliance; that the project is technically sound with the necessary requirements and standards in place; that the project has a commercially viable business model and that the company has an equitable representation of women on the workforce.

Application Criteria		
Criteria	Description	Information to be submitted
Experience and track record	Description of experience in constructing a mini-grid, in solar technology and/or off-grid and overall team experience.	<ul style="list-style-type: none"> - Company description including experience in the sector (globally and Rwanda specific) - Company organigram - Staff CV's
Due diligence & compliance	Demonstration that applicants are in compliance with all applicable laws and companies have sufficient internal control mechanisms.	<ul style="list-style-type: none"> - Company criteria in the pre-feasibility that has not yet been submitted - Description of internal controls including accounting, book-keeping and management systems in place - Financial accounts for preceding 2 years (preferably audited) - EIA/EIA exemption - Pre-agreement customer list with signatures - Office address
Technical	Demonstration that the project is technically viable and meets the required national standards	<ul style="list-style-type: none"> - Technical design (as outlined in the application document)
Business Model	Demonstration of a realistic, cost efficient and viable financial model with appropriate demand assumptions and acceptable tariffs in place.	<ul style="list-style-type: none"> - Business model and inputs (as outlined in the application document) - Completion of financial analysis excel tool
Financing	Demonstration of a clear financing plan in place with sufficient proof of available resources.	<ul style="list-style-type: none"> - Description of financing plan - Proof of 30% equity - Provision of pro-forma invoices (where possible)
Gender	Demonstration of an equitable representation of women in the workforce and in leadership positions in the applicants organization.	<ul style="list-style-type: none"> - Identify number and percentage of women hired in the organization - Identify whether the business is female owned

Table 5: Application criteria

3.2.3 Review of applications and procedure of evaluation

Applications that do not meet the deadline communicated will not be considered. Applicants will send their full applications to Urwego Bank who will check completeness of the application. If applications are incomplete,

Urwego Bank will request companies for all information prior to review. All documents must be submitted for a review unless the necessary documentation is being delayed due to an external reason with justification provided – this will be reviewed on a case-by-case basis.

Following the completeness check, Urwego Bank will send all the applications to EnDev Rwanda for assessment (with support from external consultants where needed). Upon review, EnDev will provide one round of comments and feedback and will invite the applicant to attend a meeting to discuss the comments. Applicants will be provided with 2 weeks to address all comments and will be provided one opportunity to address these comments before all applications are ranked and selected in a final review. Additional clarifications may be requested by EnDev Rwanda if necessary. All clarifications and communication will be in writing. If clarifications are not provided within the required deadline, applications will be reviewed with the available information.

All applications will be reviewed on a first come first served basis. However, all applications that meet the deadline and are complete will be reviewed and ranked by EnDev Rwanda.

3.2.4 Site visit

The top-ranking applications will receive a site visit by EnDev Rwanda and an external technical consultant to conduct an independent site assessment, Upon the result of the assessment, the scoring of the applications and ranking can be adjusted.

3.2.5 Company/Project selection and funding limitations

The scoring criteria will be the primary consideration for the ranking of the applications. However, they will also rely on the available incentive budget. EnDev Rwanda will need to consider a portfolio of projects that can achieve the maximum results in line with the budget.

3.2.6 Approval and rejection

EnDev Rwanda will notify Urwego Bank of successful and unsuccessful applicants. Urwego Bank will notify all applicants of the results of their application.

3.3 Government Approvals

Given the status of each applicant and site, the developer may have already received all relevant permissions from the Government of Rwanda or may be in the process of doing so.

3.3.1 Steps under the Ministerial Guidelines for Mini-Grid Development

Step 1 – 3

It is recommended that all successful applicants begin the initial Step 1-3 process outlined in the **Ministerial Guidelines for Mini-Grid development**, most importantly submitting their site to MININFRA for a Memorandum of Agreement (MoA) Award to conduct a full feasibility study.

Step 1: Proposals submission for mini-grid projects development at RDB

Step 2: Technical and Financial Proposal review by Joint GoR team

Step 3: Memorandum of Agreement Award by MININFRA

Step 4: Detailed Feasibility Study (DFS) reviewed and approved by REG

Once the application is approved by EnDev for approval, the applicant will be requested to submit their feasibility application study document (in the prescribed EDCL format) and the required annexes to EDCL for their review.

EnDev Rwanda will notify EDCL of the successful applications and hold a meeting between EnDev, EDCL and the applicant to introduce the projects. Upon EDCL's review, EnDev together with the applicant/developer will review comments and hold a follow-on meeting to discuss any questions, clarifications, or issues. The DFS will be amended based on the result of these discussions. If the application is well received with no comment, REG/EDCL will approve the detailed feasibility study.

Step 5: Tariff negotiation and Licensing by RURA

Following REG/EDCL's approval, the applicant/developer will submit their DFS to RURA to negotiate and approve their tariff. Where requested, EnDev will participate in discussions on the proposed tariff. Licensing and registration will also be completed at this stage.

3.4 Service Level Agreement (SLA-contracting)

Once a project is approved, Urwego Bank Plc. will prepare a draft SLA with the company. EnDev Rwanda will prepare the relevant annexes including Technical Commissioning Checklist, Results Form, Timeline with Milestones, and any other necessary annexes.

The successful applicant will review the documents and be invited to a meeting together with EnDev Rwanda to discuss the terms and conditions and clarify questions regarding the contract and verification and disbursement process.

The final contract will be reviewed by Urwego Bank, EnDev Rwanda and the success applicant and signed by all three parties. Urwego Bank is responsible for sharing the signed contract and annexes and checklists with EnDev Rwanda.

All SLAs must include an end date, commissioning deadline and project timelines with milestones. If milestones are not met, contracts can be terminated to enable other companies to be contracted and ensure that project funds are utilized prior to the end of the project.

Urwego Bank Plc. can grant contract extensions to companies based on EnDev Rwanda's feedback. Each contract extension is assessed on a case-by-case basis. Contract extensions are not guaranteed, and the request is evaluated by EnDev Rwanda.

3.4.1 Mini-grid government process and contracting

The above outlined process will be conducted concurrently with the EnDev application process. Urwego Bank will be permitted to sign an SLA with the applicant (section 3.4) once EnDev Rwanda approves a project.

Given that the application document and its annexes may change (based on the results of Step 4 and 5), the annexes in the SLA will be updated accordingly. Furthermore, the SLA will require that projects will not be able to claim their RBF incentive until the approvals stipulated in the government guidelines are received.

This will ensure that developers can move forward with an SLA to secure financing while concurrently obtaining the necessary permissions for their sites.

4 Implementation

Selected company must complete the construction and successful commissioning of a mini-grid with connections to households, businesses and social institutions. Mini-grids must be built in compliance with the standards set in this Operations Manual, the SLA between Urwego Bank and the company and its supplementary annexes and the national standards set by the Government of Rwanda.

Once the mini-grid is constructed and customers are connected, Urwego Bank and EnDev Rwanda will commission and verify the mini-grid according to the commissioning and verification processes outlined in this section.

4.1 Construction Period

Implementation and construction milestones will be developed as an annex to the SLA between Urwego Bank and the company. EnDev Rwanda will keep regular track of progress of the construction with monthly update calls held between EnDev, the company and Urwego Bank.

Urwego Bank, together with the EnDev Rwanda and a technical consultant will also conduct a mid-term field visit once during the construction of mini-grid sites, or more frequently if an urgent need arises.

4.2 Mini-Grid RBF project deadline

The EnDev Rwanda Mini-Grid project will end in September 2024. All conditions stated below will be overridden by this deadline. Therefore, any provisions for extensions in resubmission of claims, pre-commissioning and commissioning will be void after the project end period. EnDev Rwanda will hold the right to deny disbursement of funds beyond this period.

4.3 Connections

Under the EnDev Rwanda Mini-Grid RBF programme, a mini-grid connection is defined as follows;

1. Connections have been installed for a minimum period of 2 months to households, businesses and social institutions and can be verified through remote verification.
2. Connections in which 50% of the connected customers have stable power and are using their connection (i.e., that there has been consumption/flow of power to the customer).
3. Connections that are identified in the claim form and are both remotely verified according to the requirements set in section 4.3.2 and Independent Field and Phone verification as outlined in section 4.3.3.

4.4 Claiming, commissioning, and verification process

Once the mini-grid has been constructed and customers have been connected for a 2-month period, the company can claim the incentive by submitting to Urwego Bank the Claim Form along with the remote monitoring data and information of expenses incurred (as a soft copy).

Upon receipt of the claim form, remote monitoring data and expenses incurred, Urwego Bank will check the completeness and share them with EnDev Rwanda.

This will be followed by a pre-commissioning technical visit by the external consultant to ensure that the site is ready for a technical commissioning. Following this, a technical commissioning will be organized concurrently with verification including the assessment of the remote monitoring data and independent phone and field verification.

4.4.1 Step 1: Claiming

The company will be able to initiate its claim of the RBF incentive through a document check which includes submission of the Claim Form, Remote Monitoring Data and Expenses (4.2.1.1). The company must claim a minimum of 50% of customers that was agreed upon in the SLA.

If the company fails to provide and clarify the full information after three attempts, the claim will be rejected, and funds will not be disbursed to the contracted company. The company has a period of up to 2 weeks to submit a new claim.

Once the document check is finished, Urwego Bank will share the documents with EnDev Rwanda. Once the submitted documents are approved by EnDev Rwanda, a pre-commissioning technical visit will be organized.

4.4.1.1 Document check: Claim Form, Remote Monitoring Data and Expenses

The Claim Form will be provided by Urwego Bank as an annex to the SLA and contains a database of company and customer information including the names of clients, type of client, gender, phone numbers, location and meter numbers.

Companies will be required to submit access to their remote monitoring system and a summary report highlighting the number of connections, power availability (with state of charge) and consumption levels (number of customers consuming energy and overall power consumption. The remote monitoring data will be assessed by EnDev Rwanda and a third party (external technical consultant).

The company will provide documentation revealing expenses incurred consisting of documentation including a comparative budget (template to be provided by Urwego Bank) and invoices demonstrating the actual costs of the mini-grid compared to the initial estimated costs during the application phase.

4.4.1.2 Claim Form eligibility and completeness check

Only connected customers can be included in the Claim Form with their respective meter numbers. At least 95% of cells need to contain crucial information (columns: customer name, meter number, customer telephone number, sector, cell and village) and at least 85% general information. When inserted data is considered implausible, Urwego Bank will request clarifications from the company:

- Telephone duplicate entries are acceptable up to 5 customers per phone number. Developers may submit a second phone number in case it is available.
- If there are documents missing or the information is unclear, Urwego Bank will contact the

company to request the remaining documents or clarifications.

4.4.2 Step 2: Pre-commissioning technical visit and review of remote monitoring data

Once all the required documents have been submitted and verified by Urwego Bank and EnDev Rwanda, EnDev Rwanda will initiate a pre-commissioning technical visit and a review of the remote monitoring data through an external technical consultant.

The purpose of this phase is to ensure that resources are not wasted on a full commissioning should the site not meet the technical and connection requirements.

The external technical consultant will assess the remote monitoring data and conduct a technical visit (using the technical commissioning checklist). The developer needs to meet the technical and connection requirements to move forward to commissioning, for which the parameters are outlined in the below as well as in Table 6.

- The developer must receive a technical commissioning checklist score of 3 or above.
- At least customers in the claim form must be connected to a smart meter for 2 months.
- At least 50% of the connected customers must have power flowing/are consuming energy

Scenario	Technical Visit Report	Remote Monitoring		Result
		Claimed customers	Claimed customers with power	
Scenario 1	Score 2 or less	100% customers not connected for 2 months	n/a	Failed
Scenario 2	Score 2 or less	100% of customers connected for 2 months	50% of connected customers do not have power flowing	Failed
Scenario 3	Score 2 or less	100% of customers connected for 2 months	50% of customers connected have power flowing	Failed
Scenario 4	Score 3 or 4	100% customers not connected for 2 months	n/a	Failed
Scenario 5	Score 3 or 4	100% of customers connected for 2 months	50% of connected customers do not have power flowing	Failed
Scenario 6	Score 3 or 4	100% of customers connected for 2 months	50% of connected customers have power flowing	Pass

Table 6: Pre-commissioning technical and remote monitoring requirements

The technical consultant will submit a report to EnDev Rwanda and then with Urwego Bank who will sign off on the results prior to sharing with the results with the company.

If the pre-commissioning fails, the company will be asked to resubmit their claim once they meet the conditions to pass the pre-commissioning. If after 3 pre-commissioning checks, the commissioning still does not pass, the claim will be rejected, and funds will not be disbursed.

If the pre-commissioning passes, the company will be notified, and the commissioning will be scheduled accordingly. The results may have additional technical recommendations, for which the company should be provided with sufficient time to address prior to the Commissioning.

4.4.3 Verification

Verification will be organized prior to the commissioning visit and will involve:

- a. Remote verification
- b. Independent field and phone verification conducted by Independent Verification Agents (IVA)

4.4.4 Step 3: Commissioning

The commissioning will follow successful pre-commissioning. The commissioning visit involves Urwego Bank, EnDev Rwanda, an external technical consultant and EDCL (when possible) and one member employee of the company delegated by the director/founder.

4.4.4.1 Remote verification

The external technical consultant will check the monitoring data 10 working days prior to the commissioning visit to confirm the pre-commissioning figures for a. additional connections and b. connections with flowing power. They will also ensure that data is consistent with the claim form. The external consultant will also conduct a detailed assessment of power availability and power consumption. The external technical consultant will be able to communicate with the company for any clarifications through EnDev Rwanda.

The external consultant will submit the full report to EnDev Rwanda and Urwego Bank, highlighting any changes from the pre-commissioning phase. The results will be communicated to the company by Urwego Bank. If there are any issues, these will need to be addressed prior to the commissioning and the independent field and phone verification. Due to the pre-commissioning check, it is expected that no major issues in meeting the required conditions (4.4.2) for remote verification will be encountered. Therefore, if remote verification data is consistent with that in the claim form and pre-commissioning results, EnDev Rwanda will proceed with the commissioning visit and independent field and phone verification.

4.4.5 Commissioning Visit

The commissioning visit will allow EnDev Rwanda, the fund manager (Urwego Bank) and EDCL to view and assess the site. The technical consultant will provide an overview of its previous pre-commissioning visit and check any outstanding areas in technical commissioning checklist alongside the company.

The commissioning visit will pass if the company maintains its technical commissioning score of a 3 or more out of 4. The commissioning visit will occur after successful remote verification.

4.4.5.1 Independent Field & Phone Verification

EnDev Rwanda will use statistical sampling to select the verification sample for all phone and field verification. Phone and Field verification will be organized by EnDev Rwanda and occur after remote monitoring data is validated and concurrently with the commissioning visit.

The sample size will be determined based on the following 3 values

- Population size: total number of customers in the claim form
- The confidence level: 95%
- The confidence interval ± 5

Of the total sample, 50% will be verified using phone verification and 50% using field verification. Samples will be random and untargeted. An additional random selection of 25% (of sample size) will be added to the samples to account for unclear/incomplete entries and/or unreachable customers.

Independent Verification Agents (IVA) will verify both the phone and field samples. EnDev Rwanda will compile and provide the necessary samples and forms to the IVA to conduct the verification.

For phone and field verification the following methodology applies:

	Reached	Passed	Outcome
Scenario 1	at least 75% of sample	at least 90% of reached customers	Verification passes
Scenario 2	less than 75% of sample	less than 90% of reached customers	Verification and claim fail. Urwego Bank asks company to resubmit claim (up to 3 times or fails)
Scenario 3	at least 75% of sample	less than 90% of reached customers	Verification and claim fail. Urwego Bank Plc. asks company to resubmit claim (up to 3 times or fails)
Scenario 4	less than 75% of sample	at least 90% of reached customers	Verification and claim fail. Urwego Bank Plc. asks company to resubmit claim (up to 3 times or fails)

Table 7: Phone and Field verification requirements

For field verification the IVA will additionally conduct interviews on the reached customers through the EnDev survey, which will collect information on impacts such as: socio-economic data – for example, number of people in the household, financial benefits for end-users, type/source of energy used before mini-grid, technical challenges faced, etc.

4.5 Conditions for disbursement

Successful commissioning and verification are based on the signed Technical Commissioning Checklist, Remote Monitoring Report and IVA Report.

- a) The commissioning passes when the technical commissioning receives a grade 3 or 4
- b) The remote verification passes if 100% of customers in the claim form are connected to a smart meter for 2 months and 50% of connected customers have power flowing/are consuming energy.
- c) The independent verification passes when at least 75% of the sample has been reached and 90% of reached customers are connected to the mini-grid.

4.6 Disbursement

Urwego Bank will receive approval for disbursement of payment once the technical commissioning has passed and the claims have been submitted and verified through remote monitoring and a statistically significant sample has been verified by an independent verification agent. Payment will then be disbursed to the company by Urwego Bank, then Urwego Bank will inform the company about the payment. The grant amount can also be directly disbursed to the lender's bank account if there are loan obligations and the company and lender have agreed on such an arrangement in their loan application. In the case there is a remaining balance, the lender will be responsible to transfer it to the company. Urwego Bank will work with EnDev Rwanda on managing funds and disbursements.

5 Reporting & Audits

The reporting and audit requirements for both Urwego Bank and EnDev Rwanda are outlined below.

5.1 Reporting

5.1.1 Reporting requirements for companies

Other than the requirements stated under the previous sections and SLA, developers are not required to submit any additional information during the application, implementation, commissioning and disbursement phase of the project.

Upon a disbursement, companies will be required to submit bi-annual reports for the project for the following 2 years upon the commissioning and disbursement. These will include data on number of customers connected, customer usage statistics, system uptime, etc.

Aggregated and anonymized mini-grid data can be shared and utilized to develop public reports on the status of the mini-grid sector. EnDev Rwanda will require permission to publish any company specific data. This data can also be used to better inform mini-grid business models and potential future RBF grants and projects.

5.1.2 Reporting requirements for EnDev

5.1.2.1 Annual reporting to Headquarter

EnDev Global monitors outcome data from over 20 countries globally. EnDev Rwanda is required to submit outcome data to Outcome Calculation Sheets (OCS) and a Country Sheet annually, to assess progress against its set targets (section 2.2). EnDev Rwanda will collect data on household use, productive use and social institutions from companies and field/phone verification. EnDev Rwanda will additionally collect impact data during field verification through the EnDev survey tool.

5.1.2.2 Reporting to EDCL

EnDev Rwanda will hold quarterly meetings with EDCL to provide updates on the project progress and minutes of those meetings will be provided to the EnDev Programme Manager and the Director of off-Grid and Alternative Energies at EDCL.

EnDev will also engage with EDCL during the application process (section 3.3) and the commissioning visit (section 4.4.4).

Upon successful commissioning of a mini-grid, EnDev Rwanda will share a report outlining the results of the mini-grid commissioning with EDCL.

5.1.3 Monitoring & Reporting requirements for Urwego Bank

Urwego Bank has internal reporting requirements including quarterly financial statement reports, annual inventory report and half year progress reports, which will be prepared by the Urwego Bank. The mentioned reports are also reported to GIZ.

5.2 Audits

5.2.1 Urwego Bank

5.2.1.1 Internal audit

Urwego Bank undergoes internal audit and compliance checks on a quarterly basis. Urwego bank must conduct one audit and three compliance checks annually using the Operations Manual and other documents as a basis for their assessment.

Any changes made to the Operations Manual should be documented with a memo outlining changes to Urwego Bank's compliance department. A copy of the findings will be submitted to a designated Urwego Bank executive for review and comments. The final report will be shared with the EnDev Rwanda Programme Manager.

5.2.1.2 External audit

External audits will be conducted by an independent auditing firm contracted by GIZ. The periods to be covered are specified in the grant agreement between GIZ and Urwego Bank.

5.3 Internal Review

EnDev Rwanda, together with Urwego Bank, will undergo an annual review of the project and Operations Manual to assess the implementation status and identify any areas that may need adjustment. The first review will be held 6 months after the launch of the programme to make any modifications and corrections to the Operations Manual, and annually thereafter.

6 Governance Structure & Stakeholders

The governance structure of the Mini-Grid RBF Programme and the role of the various stakeholders is outlined below:

6.1 Governance Structure

The governance structure for EnDev's Mini-Grid RBF is outlined below:



6.2 Stakeholders

6.2.1 EnDev Rwanda

The EnDev team in Rwanda is the lead implementer of the Mini-Grid RBF. As such, EnDev Rwanda is responsible for:

- Developing the necessary tools, templates and processes required for implementation
- Supporting the design and development of communication materials alongside Urwego Bank
- Screening company applications technically and financially, and responsible for selection of developers
- Being a witness to the Service Level Agreement signed between Urwego Bank and participating companies
- Responsible for the overall coordination of programme and its efficient implementation including the oversight of Urwego Bank
- Coordinating independent verification (incl. contracting and management of IVAs) and technical commissioning (incl. contract and management of external consultant)

- Monitoring the use of funds by Urwego Bank and companies in line with the programme's objectives (incl. approval of requests for disbursement),
- Performing periodic programme reviews together with Urwego Bank,
- Cooperating closely with stakeholders in achieving objectives including the Government of Rwanda and its implementing entities, Enabel, Renewable Energy Fund, and others,
- Reporting to donors, government and EnDev headquarters.

6.2.2 Urwego Bank

Urwego Bank Plc.'s mandate according to the grant agreement between EnDev Rwanda and Urwego Bank includes:

- To receive and administratively assess mini-grid company applications together with EnDev Rwanda
- Supporting the development of necessary tools, templates and processes required for implementation
- Supporting the design and development of communication materials together with EnDev Rwanda
- Supporting training for participating stakeholders as needed
- Realizing contractual arrangements with eligible companies,
- Administering the fund,
- Disbursing incentives upon request of EnDev Rwanda, an
- Participating in periodic programme reviews together with EnDev Rwanda

Urwego Bank will assign a dedicated part-time employee to fulfil its mandate and support the implementation of the Mini-Grid RBF. Existing staff (for example, from finance, marketing, IT, audit, operations, accounting, legal etc.) support the programme on a part-time basis. Additional support is contracted as needed.

6.2.3 Government stakeholders

The Government of Rwanda, through the Ministry of Infrastructure, REG/EDCL and RURA, will need to approve all projects as stipulated in the GoR's *Ministerial Guidelines for Mini-Grid Development*. EnDev's focal government partner will be EDCL, who oversee implementation of Rwanda's off-grid electrification strategy and with whom EnDev Rwanda will work closely. REG/EDCL and RURA are responsible for:

- Approval of feasibility studies submitted by (potential) developers
- Negotiation and approval of tariffs
- Provision of Licenses
- Participation in the commissioning of the mini-grid
- Monitoring of mini-grids after commissioning to ensure plants are well operating and customers are served

6.2.4 Other

6.2.4.1 Independent Verification Agents (IVA)

The role of the independent verification agents (IVAs) is to verify connections claimed by companies. The programme will contract IVAs that will conduct both field and phone verification. In accordance with the procedures outlined in section 4 of the operations manual and in the contracts, IVAs will:

- Interview a sample of beneficiaries provided by EnDev Rwanda through phone or field verification
- Document results through the tools provided by EnDev Rwanda

EnDev Rwanda will provide the necessary training in order to properly conduct the interviews.

6.2.4.2 External Technical Consultants

The role of the external technical consultants is to support EnDev Rwanda in the technical evaluation of projects both through evaluation of feasibility studies, remote monitoring data and on-the-ground assessments. The programme will contract call-down technical consultants. In accordance with the procedures outlined in Section 3 and Section 4 of the operations manual and in the contracts, technical consultants will:

- Assess applications of potential developers
- Participate in pre-commissioning and commissioning technical visits
- Review and assess remote monitoring data provided by companies
- Document results through the tools provided by EnDev Rwanda
- Support EnDev Rwanda in technical related TA including support to companies, review of technical criteria and procedures and participation in internal reviews (as requested)

6.2.4.3 Enabel PSPE Programme

Enabel's *"Private sector participation in the generation and distribution of electricity from renewable sources"* (PSPE) programme was designed to support private project developers in developing energy projects through TA support and support in renewable energy financing, specifically to the REF project implemented by BRD. Enabel has supported the development of 20 mini-grid feasibility studies of potentially viable projects. EnDev Rwanda and Enabel will work closely to support (potential) companies in accessing pre-financing through the REF and obtaining the necessary government permissions.

6.2.4.4 Renewable Energy Fund (REF)

In June 2017, The GoR and World Bank signed a USD 45.94m Scaling up Renewable Energy Programme (SREP) financing agreement deal to accelerate off-grid electricity access through stand-alone solar systems and renewable energy-based mini-grids through the establishment of the REF. The REF aims to catalyse private sector investments without distorting local financial markets through the facilitation of local currency capital.

The REF, which is implemented by Development Bank of Rwanda (BRD), was officially effective in November 2017. It provides local currency financing through four financing windows³.

Window 3 supports the provision of direct financing to mini-grid developers via BRD, using its own credit risk appraisal and due diligence. In this context, EnDev Rwanda identified potential synergy with SREP; funding from

³ a) Window 1 - On-lending through SACCOs to households and micro-enterprises: this window will provide a line of credit to BRD for on-lending to eligible SACCOs. SACCOs, in turn, will on-lend the funds to eligible households and micro enterprises in the purchase of off-grid solar systems.

b) Window 2 - On-lending through banks (commercial and microfinance) to households and small and medium enterprises (SMEs): this window will provide a line of credit to BRD for on-lending to eligible commercial and microfinance banks, which will extend sub-loans to household and SMEs.

c) Window 3 - Direct financing to mini-grid developers: this window will provide direct financing to mini-grid developers to finance up to 70% of construction of renewable-energy based mini-grid systems.

d) Window 4 - Direct financing of locally registered off-grid solar companies (OSCs) supporting Tier 1 or higher solar systems (this was launched in 2019)

the REF would act as a 'bridge loan' and provide the required pre-commissioning financing to developers before funding from the VG RBF programme becomes available (upon commissioning). EnDev Rwanda and REF will work closely in support of (potential) developers in accessing the REF Window 3.

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