TECHNICAL & FINANCIAL FILE

PRIVATE SECTOR PARTICIPATION IN THE GENERATION AND DISTRIBUTION OF ELECTRICITY FROM RENEWABLE SOURCES

RWANDA

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THE BELGIAN DEVELOPMENT COOPERATION .be

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ABBREVIATIONS

AFD	Agence Française de Développement
AfDB	African Development Bank
ASYV	Agahozo-Shalom Youth Village
BADEA	Arab Bank for Economic Development in Africa
BE	Kingdom of Belgium
BEEARP	Belgian Contribution to the Electricity Access Roll Out Program (all three components)
BFZ	Bavarian Employers Federation
BNR	National Bank of Rwanda
BRD	Development Bank of Rwanda
BTC	Belgian Technical Cooperation
CD-EU	Capacity Development for the Energy Utility
CIF	Climate Investment Funds, managed by the World Bank
DGD	Directorate General for Development Cooperation and Humanitarian Aid
DP	Development Partners
E4I	Energy for Impact
EA	Environmental Assessment
EC	European Commission
EARP	Electricity Access Roll-out Program
EDCL	Energy Development Corporation Limited
EDPRS	Economic Development and Poverty Reduction Strategy
EMP	Environmental Management Plan
EPD	Energy Private Developers
ESSP	Energy Sector Strategic Plan
eSWAp	Energy Sector Wide Approach
eSWG	Energy Sector Working Group
EUCL	Energy Utility Corporation Limited
FDI	Foreign Direct Investment
GBS	Gender Budget Statement
GDP	Gross Domestic product
GE	Gender equality
GHG	Greenhouse Gas
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GIS	Geographic Information System
GMO	Gender monitoring office
GoR	Government of Rwanda
GTF	Global Tracking Framework
HIV	Human Immunodeficiency Virus
HR	Human Resources
ICP	Indicative Cooperation Program
ICT	Information and Communication Technology
IMF	International Monetary Fund
IMU	Intervention Management Unit
IPP	Independent Power Producer
KIST	Kigali Institute of Science and Technologies
kWh	Kilo Watt Hour (unit of energy)
LV	Low Voltage
MDG	Millennium Development Goals
M&E	Monitoring and Evaluation
MFI	Micro-Finance Institution
MHP	Micro Hydro Plant
MINAFFET	Ministry of Foreign Affairs and Cooperation
MINALOC	Ministry of Local Government
MINECOFIN	Ministry of Economic Planning and Finance
MINEDUC	Ministry of Education
MIGEPROF	Ministry of Gender and Family Promotion
MININFRA	Ministry of Infrastructure
MINIRENA	Ministry of Environment and Lands
MOH	Ministry of Health
MoM	Minutes of Meeting

MoU	Memorandum of Understanding
MTR	Mid Term Review
NGO	Non-Governmental Organization
NL	The Netherlands
NWC	National Women Council
O&M	Operation & Maintenance
OFID	OPEC Fund for International Development
PAYG	Pay as you go
PIU	Project Implementation Unit
PPA	Power Purchase Agreement
PPP	Public Private Partnership
PRSP	Poverty Reduction Strategy Paper
PSF	Private Sector Federation
PSI	Policy Support Instrument
PSPE	Private Sector Participation in the generation and distribution of Electricity
PSP Hydro	Private Sector Participation in Micro-Hydro Power Supply for Rural Development
PV	Photovoltaic
QCC	Quality Control Committee (DGD)
RAF	Responsible for Administration and Finance
RDB	Rwanda Development Board
RECP	Renewable Energy Cooperation Program
REF	Renewable Energy Fund
REG	Rwanda Energy Group
REMA	Rwanda Environment Management Authority
RES	Rural Electrification Strategy
RSB	Rwanda Standards Board
RURA	Rwanda Utilities Regulatory Agency
SACCO	Savings and Credit Co-operative
SC	Steering Committee
SE4ALL	Sustainable Energy For All
SEA	Strategic Environmental Assessment
SF	Shell Foundation
SHS	Solar Home Systems
SME	Small and Medium Enterprise
SoV	Source of Verification
SPD	small-scale power distributors
SPIU	Single Project Implementation Unit
SPV	Special Purpose Vehicle
SREP	Scaling up Renewable Energy Program
SWAp	Sector Wide Approach
SWG	Sector Working Group
SWOT	Strengths, Weaknesses, Opportunities, Threats
TA	Technical Assistance
TFF	Technical and Financial File
ToR	Terms of Reference
TWG	Technical Working Group
UN	United Nations
UNIDO	United Nations Industrial Development Organization
WB	World Bank
Wp	Watt Peak

EXECUTIVE SUMMARY

The Indicative Cooperation Program (ICP 2011-2014) between Belgium and Rwanda allocated a total grant envelope of 49 million euro to the energy sector in Rwanda. In total, 6 interventions make up the energy program with the sixth component (component 6) being the scaling-up of the generation of renewable energy by the private sector which has a revised Belgian contribution of 2 million EUR that will be implemented in a duration of 3 years (RWA 15 096 11; Private Sector Participation in the generation and distribution of electricity from renewable sources, or PSPE).

The general objective of PSPE is the provision of sufficient, reliable and affordable energy for all Rwandans, which is the same as for the three earlier contributions of Belgium to the nationwide Electricity Access Roll-out Program (EARP). The specific objective of PSPE is to support the participation of private project developers in the generation and distribution of electricity from renewable energy sources.

The intervention will support the ironing out of bottlenecks that have been slowing and hampering private sector involvement in electricity generation projects in Rwanda. PSPE will liaise with all entities and initiatives in the electricity sub-sector to ensure that the intervention is in line with national policies and strategies, including the recently adopted rural electrification strategy. PSPE will especially work in synergy with and support the REF (Rural Electrification Fund) financed by the Climate Investment Funds and managed by the World Bank.

The Development Bank of Rwanda (BRD) was selected to manage the REF and PSPE will support and enhance BRD's institutional and organizational capacity so that funds from this fund and other sources become more easily accessible to private investors and project developers.

The PSPE intervention which will be implemented by the Development Bank of Rwanda (BRD) is expected to be executed though the support of services by international technical assistance and provision of capacity building services in areas of project assessment, identification of potential investment opportunities, business plan development and monitoring and evaluation.

The intervention is expected to regularly report and exchange information with the SREP programme, the energy Sector Wide Approach (eSWAP) secretariat and the energy sector working group (eSWG) on the progress registered and planned activities.

ANALYTICAL RECORD OF THE INTERVENTION

Title of the intervention	Private sector participation in the generation and distribution of electricity from renewable sources
Intervention number	NN 3017545
Navision Code BTC	RWA 15 096 11
Partner Institution	Ministry of Finance and Economic Planning (MINECOFIN)
Length of the intervention	36Months
Duration of specific agreement	48 Months
Estimated date of start from the intervention	2017
Rwandan Contribution	Estimated at 450,000€
Belgian Contribution	€ 2,000,000
Sector (CAD codes)	Main sector : 23030 Energy – Production of Energy (renewable sources) 23040 Energy – Electricity transmission and distribution Sub-sector : 23010 Energy – Energy policy and management
Brief description of the intervention	Support the private sector involvement in generation and distribution of electricity in Rwanda
Global Objective	The energy sector is able to provide sufficient, reliable and affordable energy for all Rwandans
Specific Objective	The generation and distribution of electricity from renewable resources is increased by the participation of the private sector supported by the intervention.
Results	1. BRD is able to analyze the viability of project proposals 2. BRD is able to proactively identify a pipeline of potentially viable projects and to assist the private sector to develop them

1. SITUATION ANALYSIS

1.1 The ICP between Belgium and Rwanda

The Indicative Cooperation Program (ICP 2011-2014) between Belgium and Rwanda, approved on May 18th 2011, allocated a total grant envelope of 55 million euro, (later reduced to 49 million euro), to the energy sector in Rwanda, split over 4 interventions:

1. Improving access to reliable and cost effective electricity services for households and priority public institutions – Belgian contribution to Electricity Access Roll-Out Program EARP (€17M)
2. Institutional Strengthening and Capacity Building (€5M)
3. Increasing electricity supply through development of geothermal energy (€27M)
4. Encouraging private sector participation in the generation of electricity from renewable sources, through the establishment of adequate Feed-in-Tariffs (€6M)

Both interventions (1) and (2) were formulated in 2013 and started operating in 2014. Following a joint decision taken by Rwanda and Belgium to reallocate the funds of the geothermal component (3), the parties agreed, in December 2014, to split the € 27M in three smaller interventions. One intervention of € 5M (FMBE) focuses on the forestry sector. Two other interventions for a total of € 22M were allocated to support the electricity access roll-out within EARP. In April 2016, it was decided to reduce the budget of the 4th component from 6 to € 2M, and the budget of the FMBE component to € 3M.

The total envelope of € 49M for the energy program was split over the six (6) interventions as follows:

i. Improving access to reliable on grid electricity services for households and priority public institutions – Component 1 – BE1EARP (€ 17M)

ii. Improving access to reliable on grid electricity services for households and priority public institutions – Component 2 – BE2EARP (€ 12M)

iii. Improving access to reliable on grid electricity services for households and priority public institutions - Component 3 – BE3EARP (€ 10M)

iv. Institutional strengthening and capacity development of electricity utility – CDEU (€ 5M)

v. Forest Management and Support to woody Biomass Energy – FMBE (€ 3M)

vi. Private sector participation in the generation of electricity from renewable sources - PSPE (€ 2M)

The present document formulates component (vi).

1.2 The general policy context for the Energy Sector

1.2.1 The macroeconomic policy context

Rwanda successfully completed the seventh review under the second generation of the non-financial program with the International Monetary Fund (IMF), the Policy Support Instrument (PSI). Through the PSI the Government of Rwanda is committed to maintaining macroeconomic stability and sustaining rapid and inclusive growth over the medium term. With Rwanda's risk of debt distress having improved from "moderate risk" to "low risk", the IMF's PSI provided for flexibility to issue US$200.49M in non-concessional debt, with the objective of supporting private sector development, support to export development, accelerated domestic resource mobilization and rationalization of spending.

The PSI confirms the prudent macroeconomic stance of the Government and focuses on key policy

priorities aimed at maintaining a sustainable fiscal position, modernized monetary policy to curb inflationary pressures, and preserving external stability.

In 2014 the country achieved an annual gross domestic product (GDP) growth rate of 7%. Economic expansion was largely driven by the service sector, which grew 9% year-on-year and by the agricultural sector (Rwanda's largest employer) which grew by 5% year on year. In 2016/17, real GDP growth is forecast to average about 6.6% driven by a combination of factors including foreign and public investment, services and exports. The medium-term outlook is favorable, with the IMF forecasting 7-7.5% annual real GDP growth in the period 2015-2018, driven by increased public and foreign investment. Growth prospects in Rwanda will also depend on an improved power supply. The continuous dropping of commodity prices is likely to affect Rwanda´s export revenues in the near future.

Insuring access to affordable and modern sources of energy remains essential to achieve the EDPRS II objectives. The Government aims to raise electrification rate to 100% by 2020 from the current 24.3% and 2.7% on and off-grid connections respectively. The GoR also maintains the target to increase the power grid capacity to appropriately over 500MW by 2024. The generation capacity by end 2016 was estimated at around 208MW.

Significant investment has been allocated to the improvement of transmission and distribution systems with support from different development partners some of whom included the European Union and World Bank. The Government will continue to invest in projects that enable regional power integration. Some of these projects are still under construction or at advanced design stages of completion.

1.2.2 Vision 2020 and the importance of the energy sector

Rwanda has made remarkable progress since the 1994 genocide and civil war. Peace and political stability have been re-established, and reconciliation efforts are continuing. Poverty and social indicators have also improved.

In its Vision 2020 document, written in 2000, the GoR described what Rwandan society and economy should look like in 2020. The major aspiration was to transform the country into a middle income country. The accomplishment of this ambition would require an annual economic growth rate of at least 7%. In order to bring about the necessary rise in the standard of living of the population, growth would also have to be pro-poor, giving all Rwandan’s the chance to gain from the new economic opportunities.

Vision 2020 has been converted into action by a series of medium-term strategic plans. The first was the Poverty Reduction Strategy (PRSP) finalized in 2001. This was the Government of Rwanda (GoR)’s first systematic assessment of the actions needed to reduce poverty and generate pro-poor economic growth. It was followed by the Poverty Reduction Strategy Paper (PRSP) which covered 2002-2006, and subsequently the Economic Development and Poverty Reduction Strategy (EDPRS I) covering the period 2008-2012.

EDPRS I (2008-2012) marked a distinct change in the approach to development. A key conclusion of the PRSP experience was that the social sectors (particularly health and education) had been well addressed through the previous programs, while the real economy i.e. the sectors dealing with the production of goods and services, had not. Priority was, therefore, given to accelerating growth, creating employment and generating exports. These were to be catalyzed through public investment in infrastructure, and regulatory reform. These strategies were intended to reduce the costs and risks of doing business and to create an attractive environment for private sector investment and activity.

Rwanda met most of the MDGs by the end of 2015. Strong economic growth was accompanied by substantial improvements in living standards, evidenced by a two-thirds drop in child mortality and the attainment of near-universal primary school enrolment. A strong focus on homegrown policies and

initiatives contributed to a significant improvement in access to services and in human development indicators. The poverty rate dropped from 59% in 2001 to 45% in 2011 while inequality measured by the Gini coefficient reduced from 0.52 in 2006 to 0.49 in 2011.

During the last few years, Rwanda's economy has been growing at an annual average rate of 8.3%. Growth in 2016 was at 6.1%, and 2017 is projected to be at 6.8%, according to IMF reports (report 17/8 Rwanda); these figures were confirmed by the National Bank of Rwanda. According to the GoR's vision, economic growth will be, among other things, driven by the uninterrupted provision of energy at prices that are stable and regionally competitive. Therefore, access to modern sources of energy (petroleum and electricity) at affordable prices will be essential if the country is to achieve this objective. These energy sources are crucial when it comes to developing the services sector and the industry in Rwanda. On the other hand, the provision of cost effective and appropriate energy solutions to the poor must also contribute to poverty alleviation, particularly in rural areas where energy services are currently scarce or expensive.

1.3 The evolution of the Energy sector

Given the GoR's ambition, no single energy source on its own will be able to meet the energy needs of the country in the coming years. Each energy source has its own unique characteristics and the choice of the most appropriate source of energy depends on its foreseen use. The figure below, taken from the Energy Sector Strategic Plan 2013-2018, illustrates the proportion of energy the GoR expects to obtain from bio-products, petroleum products and electricity for different uses in the future. The red arrows illustrate where significant increases in the use of particular energy sources are expected in order to drive the economic growth or the poverty reduction targeted under the EDPRS II.

Figure 1: Illustrative view of portion of energy from different sources in 2017

	Transport	Heating and Cooking	Lighting	Modern Domestic and commercial Technologies	Industrial processing
Bio-products	Small fraction of transport expected to use Biofuels	Bio-products dominate; transition away from wood to charcoal and Biogas.		none	Small use of Bio-products e.g. wood burning for tea processing
Petroleum	Vast Majority of transport will continue to use petroleum products	LPG will be used but will remain a luxury for the urban wealthy	Kerosene may be used but Electricity will dominate	none	Petroleum to be used for heavy machinery or where grid connections are unavailable
Electricity	Electric Vehicles not envisaged in the next 5-years	Electricity will not make economic sense for heating and cooking	We expect a significant increase in both on and off-grid electricity for lighting	Electricity will be the only possible option	We expect a significant increase in Electricity use for industrial processing

The figure above shows that bio-products will remain the most appropriate and cost-effective source of energy for heating and cooking. The 5-year strategy of the GoR for the period 2013-2018 is to encourage cleaner, more efficient and sustainable uses of bio-products by transitioning away from wood to more advanced technologies such as biogas and by making the production and use of charcoal more efficient.

The demand for petroleum will continue to rise, for transport and for industrial use. The envisaged reduction of diesel for electricity production will be more than off-set by the increased need for petroleum products in transportation, particularly aviation, and heavy industry.

Finally, though it currently represents a small portion of Rwanda's Energy mix, electricity will become very important in the future since it is essential for modern sectors such as manufacturing and ICT. Therefore, increasing levels of both access and generation capacity is vital if the country is to achieve the levels of economic growth and poverty reduction that are targeted.

1.4 The electricity sub-sector

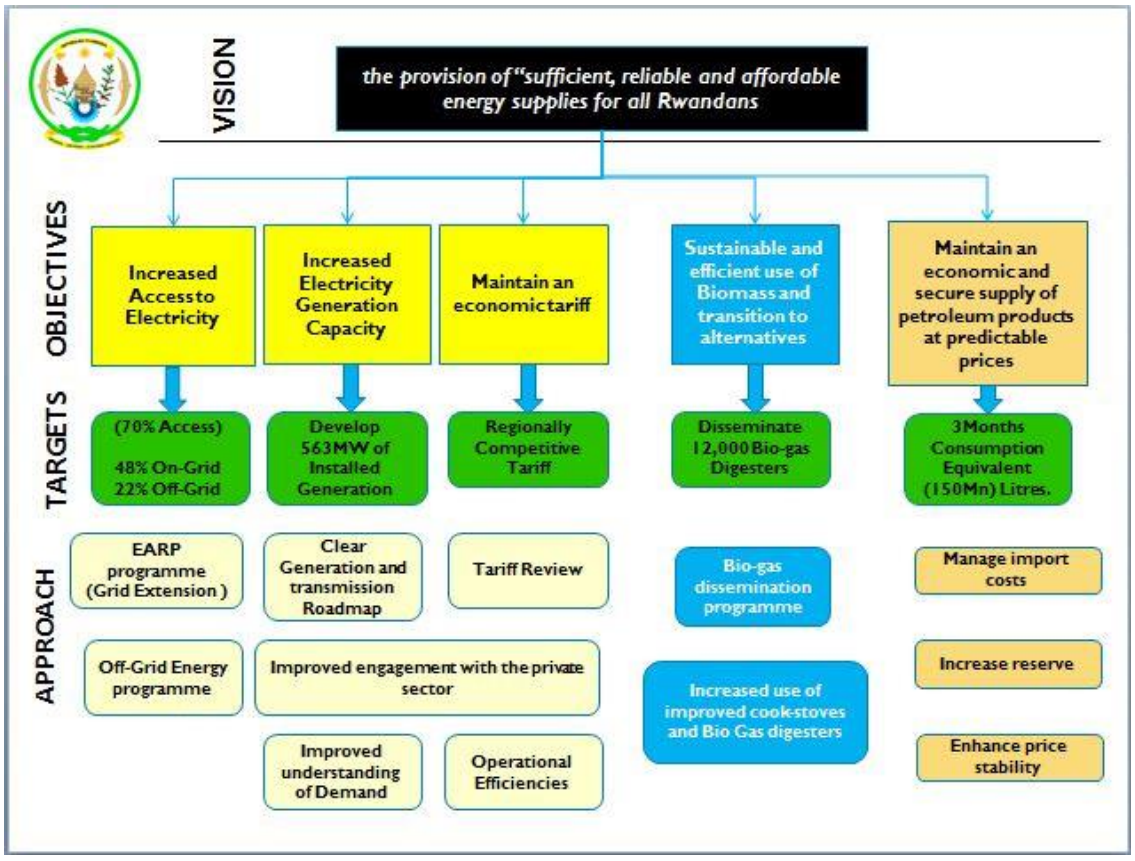
1.4.1 Objectives and strategies for the electricity sub-sector

To make sure that the energy sector effectively contributes to economic growth and poverty alleviation, the GoR has set three specific objectives and targets in the EDPRS II for the energy sector:

1. Increase Rwanda's electricity generation capacity to 563 MW, leveraging large-scale private sector investment by 2018;
2. 70% of the Rwandan urban and rural households have access to electricity, by 2018 (22% by off-grid solutions, 48% by on-grid solutions)
3. Electricity in Rwanda needs to be provided at a regionally competitive tariff

In the Energy Sector Strategic Plan 2013-2018, these objectives are represented as follows:

Figure 2: Summary of Energy Sector Vision, Objectives, Targets and strategic approaches



The strategic approaches for all three objectives are discussed in more detail below.

1. Increasing access to electricity

As far as the "Access to Electricity" is concerned, the strategic approach of the GoR, proposed in the Energy Sector Strategic Plan 2013-2018 is twofold:

A. On the one hand, the GoR will continue efforts to provide access to electricity with the aim of achieving universal access through on grid and off-grid electrification by 2020 (this is refined by the Rural Electrification Strategy, see below). By June 2017, the overall on-grid connections represented over 29% of the population while off-grid was at 7.5%. The on-grid electrification plan is currently being revised however emphasis is currently on the prioritizing productive users and 100% electrification of Kigali city and 6 secondary cities. This means that areas with higher concentrations of productive users will be connected first. Furthermore, productive user fill-in connections have been prioritized according to their distance from the grid.[1] Rwanda's Electricity Access Roll-out Program (EARP) is designed to achieve the GoR stated targets set out in National Strategy for Transformation and Prosperity for on-grid connections. These targets call for the total number of electricity connections to increase significantly, with a special emphasis on connecting productive uses, social infrastructures-health facilities, schools and administrative offices.

   EARP is a nationwide program operating under the Rwanda Energy Group (REG) which has a program management department for this purpose. EARP is particularly supported through the BE involvement through BEEARP.

B. On the other hand, the GoR also emphasizes the need for off-grid solutions, especially in remote geographical areas where levels of consumption are too low to justify a grid extension and connections to the national grid. In such cases, the GoR is envisaging to implement market transformation initiatives and PPPs to increase household access to off-grid solutions such as stand-alone solar PV systems, biogas digesters and micro-grids powered by small hydro plants, hybrid systems with a combination of solar-wind, or solar-diesel. The current off-grid connection rate stands at 7.5% of households. Through the current ESSP (period 2012-2018), the GoR aims to reach 22% of households by 2018 accessing to at least Tier 1 energy service, according to the SE4All service level classification.

The newly adopted **Rural Electrification Strategy** (RES, May 2016) recommends the use of emerging alternative approaches to the traditional on-grid based access[2]. However, the strategy acknowledges that mini-grids are expensive, costing around $1000 - $1500 for each connected consumer. Therefore, mini-grids can only be used under specific circumstances, where: i) connecting to the national network has higher costs given the distance or other geographical constraints; and ii) sufficient solvable demand exists to justify the investment (i.e., clients willing and able to pay for their electricity consumption, particularly commercial and industrial users).

The RES further reduced on-grid targets for 2107/18 to 31-35% of households, leaving a larger portion for off-grid development. Reaching off-grid electrification targets will be the subject of this TFF, focusing on private sector project development of renewable energy electrification projects, financed through the local banking system.

A summary of the targets for electricity access is given below, whereby a distinction in levels of access was made according to the multi-tier framework definition:

[1] Energy Sector Strategic Plan, page 42
[2] Rural electrification strategy, May 2016. page 4

Figure 3 : Summary of Rural Electrification Strategy targets

<table>
<tr><th></th><th>Revised Target proposal - 2017/18</th><th>Original Targets (EDPRS 2 & SSP) 2017/18</th><th>2020 Targets</th></tr>
<tr><td>Tier 0 (no access)</td><td>30%</td><td>30%</td><td>0%</td></tr>
<tr><td>Tier 1</td><td>22%</td><td rowspan="2">(off-grid) 22%</td><td rowspan="4">100% Access</td></tr>
<tr><td>Tier 2</td><td rowspan="3">48% (of which approx. 31-35% grid)</td></tr>
<tr><td>Tier 3</td><td rowspan="2">(grid) 48%</td></tr>
<tr><td>Tier 4-5</td></tr>
<tr><td>Total Access</td><td>70%</td><td>70%</td><td></td></tr>
</table>

These targets now specify that the 48% of grid access is to be understood as 31-35% on-grid, and the rest in equivalent Tier 2/3/4 levels. The 22% off-grid access is now reconsidered as 22% of Tier 1 access. To reach the 100% energy access (all Tier-levels combined), large efforts are still needed for electrification through on-grid, mini-grid, or individual systems.

Four programs are planned under the Rural Electrification Strategy:

1. Government will establish a mechanism focusing on low-income households that will facilitate their access to solar systems providing modern energy services, something increasingly considered a basic necessity.
2. Government will establish a risk-mitigation facility targeting the private sector such that solar products will be made available on financial terms that the population can afford.
3. Mini-grids will be developed by the private sector with Government playing a key role in identifying sites and establishing a framework through which these can become financially viable investments.
4. Government will continue to roll out the electricity network via EARP, focusing on connecting high consumption users and driving economic growth.

2. Increasing electricity generation capacity

The current sub-sector plan aims for power capacity to increase from a current level of 208 MW installed to up to 563 MW of electric power installed capacity by the end of the ESSP 2012-2018 period, taking into account an increased reserve margin and imports. This installed capacity would significantly exceed the likely demand scenario forecasting 377 MW peak demand at the end of ESSP period (2018).

Much of this generation capacity increase effort is expected to be realized by attracting private sector investors through Public Private Partnerships (PPPs). The Energy Sector Strategic Plan expected the development of an Energy Development Fund that would finance technical and commercial feasibility studies for specific projects in which a private investment is required and GoR would streamline the process of obtaining licenses and permits for private companies.

Hydropower still offers plenty of development opportunities. Studies suggest that Rwanda's topography is most suitable for medium- to high-head pico- and micro-hydro run-of-river schemes and

the overall technical hydropower potential has been estimated at 400 MW[3]. By April 2016, seven privately developed hydropower plants with a total capacity of 16 MW were under different phases of construction, with commercial operation dates planned in 2016 and 2017 [4].

Large generation plants are also expected to come on-grid during the same period, such as the 80MW Hakan Peat-to-power project. The regional 80MW Rusumo Falls project will produce energy to be shared between Rwanda, Tanzania and Burundi. In December 2015, Symbion Power Lake Kivu Ltd, a subsidiary of Symbion Power LLC, signed a 25-year PPA with REG for a 50 MW methane power project on Lake Kivu. The first barge will provide 13 MW of electricity within 15 months after the project reaches financial close. The full 50 MW will be commissioned within 36 months after financial close.

If all additional generation plans materialize (Annex 1), there will be no lack of generation capacity in the foreseeable future. The two serious issues that threaten the sustainability of the sector are: (i) many of the IPP contracts have been signed on a "take or pay" basis, whereby REG needs to pay for all electricity produced, whether used or not; (ii) the PPA for many of the IPPs are generous: at the time of signing, there was pressure to quickly replace emergency diesel capacity which produced high cost electricity. Both make electricity more expensive than necessary, making REG's viability more precarious. Another issue is was the focus is on-grid generation and use, with very little attention to off-grid uses.

3. Assuring and maintain a regionally competitive tariff

The current electricity tariff is heavily subsidized, with part of REG's revenue coming through Government subsidies. The GoR is committed to make power increasingly affordable and this is reflected in the recently approved end user tariff that was introduced in January 2017 which decreased the industrial tariff by 32%, and also catered for low-income households with a reduction of up to 51% from the tariff that existed. However the off-grid regulation for end-user tariff is currently lead by market rates/ conditions while the rules and compensation that should be applied when a mini-grid is connected to the national grid are still unclear.

1.4.2 Sustainable Energy for All

Rwanda's SE4All Action Agenda has been integrated into the work plan of the country's Sector Working Group, the main coordination and advisory body bringing together stakeholders in the sector including the key ministries, Government agencies, development partners, private sector representatives, civil society and NGOs. It envisions additional actions in the field of electricity access (compared to ESSP in the longer term):

- Identify long-term saturation levels of grid access in Grid roll-out
- Develop an O&M and grid replacement strategy
- Calculate cost-reflective tariffs
- Support new business models for off-grid electrification
- Educate customers
- Consider costs and benefits of fiscal policy options

SE4All Action Agenda also introduces the **multi-tier access monitoring approach** in line with the Global Tracking Framework. This approach provides essential information for the sector to be able to effectively implement the actions here above.

[3]Electricity Sector Strategic plan
[4]Hydropower generation status update, July 2016. pge 2

1.5 The financing sector, and its involvement in financing energy projects

1.5.1 Rwanda financial sector

Rwanda's banking sector remains generally sound and performed satisfactorily in the first half of 2016 according to the National Bank of Rwanda (BNR). The Central Bank estimates that the industry's total assets increased by 13.9% in June 2016 (year-on-year) - from Rwf2.0 trillion in June 2015 to Rwf2.3 trillion in June 2016 with issued loans accounting for 60%. There are currently 17 registered commercial banks in Rwanda that can provide full banking services, 75 registered MFIs, and 416 registered SACCOs. A review of SACCOs is currently being carried out, with an intention to reorganize them at the District level.

The three largest commercial banks are the Bank of Kigali, with a market share of 31% of total banking assets and about 50% share of the total commercial bank profitability (BK 2011); the Banque Populaire du Rwanda, (owned at 62.1% by Atlas Mara Mauritius) and I&M Bank (which is owned for 80% by I&M from Kenya and 20% by GoR). Ecobank, Access Bank, Equity bank and Kenya Commercial Bank are among the large regional banks with a presence in Rwanda; there are no international banks yet.

Rwanda's financial sector is largely dominated by banks which manage around 66.9% of the total financial sector assets[5]. Banks concentrated their lending portfolio to mortgages, hotels and trade sectors. In 2015, the mortgage industry alone, took 33% of share, whereas the hotels and trade industries took 31% of share. During the same year, **water and energy loans were estimated at only 2% of the sector loans.**

1.5.2 Development Bank of Rwanda (BRD)

BRD, the Development Bank of Rwanda is a Public Company Limited by Shares, with a share capital and for more than four decades it has been the sole provider of long term finance and has significantly facilitated the emergence of different productive enterprises in the private sector. As the GoR investment arm, BRD's financial development objectives focus on the priority sectors of the economy. It has a diversified ownership structure including the Government with 46.55% of shares, the Rwanda Social Security Board with 37%, the Government of Belgium with 7.8% and National Agriculture and Export Board with 2.6%. Smaller shareholders include a Rwandan insurance company with 3.3% and Bank of Kigali with 1% of shares, and 14 additional shareholders with shares of less than 0.5%. Its five departments cover investments, risk management, financial management, new business development and administrative support.

BRD´s priority sectors are: energy, exports, education, agriculture and housing. Under the new Strategic plan of the Bank, a new department in-charge of Special Projects and Infrastructure was created to cater for strategic projects that do not fall under the existing priority sectors of the Bank. BRD has financed several micro-hydropower plant (MHP) projects through leasing or debt financing. According to the bank statement, it is currently proposing products such as the equity financing and provision of long-term financing with long grace periods. Banks such as BK and I&M Bank are known to have also provided financing for similar projects. BRD was involved in the very first IPP project through lease financing to REPRO to source electromechanical equipment for the Murunda projects. Later on, the Musarara and Mazimeru plants were financed through commercial loans from BCR (now I&M Bank Rwanda) and BK respectively, while BRD financed several other MHP projects, including the Giciye I and II plants, Kigasa.

[5] Annual financial stability report 2014-2015, BNR

Over the next five years, BRD plans to invest USD 185 million in the Energy sector (including non-renewable) and catalyze additional USD 638 million from other stakeholders. The bank acknowledges the fact that energy projects require significant time and financial investments and their long-term nature requires specialized financing terms. BRD has set up a dedicated department for energy. The department is focused on three main programs: energy generation, energy efficiency and technical assistance.

1.5.3 Renewable Energy Fund (REF)

The Renewable Energy Fund (REF) is established under SREP, the $780 million Scaling Up Renewable Energy in Low Income Countries Program, which is a program under the Climate Investment Fund (CIF) that aims at transforming developing countries by demonstrating the economic, social, and environmental viability of renewable energy. The Fund is channeled through multilateral development. A total of $194 million (25% of SREP funding) for the overall programme is approved and under implementation and expecting $1.2 billion in co-financing from other sources. The SREP employs a programmatic approach, building on national policies and existing energy initiatives.

In Rwanda, SREP is managed by the World Bank, and will be used to establish the Renewable Energy Fund in Rwanda.

The Renewable Energy Fund will be implemented through 4 windows:

- *On-lending through SACCOs to households and micro-enterprises*
- *On-lending through banks (commercial and microfinance) to households and small and medium enterprises (SMEs)*
- *Direct financing of mini-grid developers*
- *Direct financing of locally-registered off-grid solar companies supporting Tier 1 or higher solar systems*

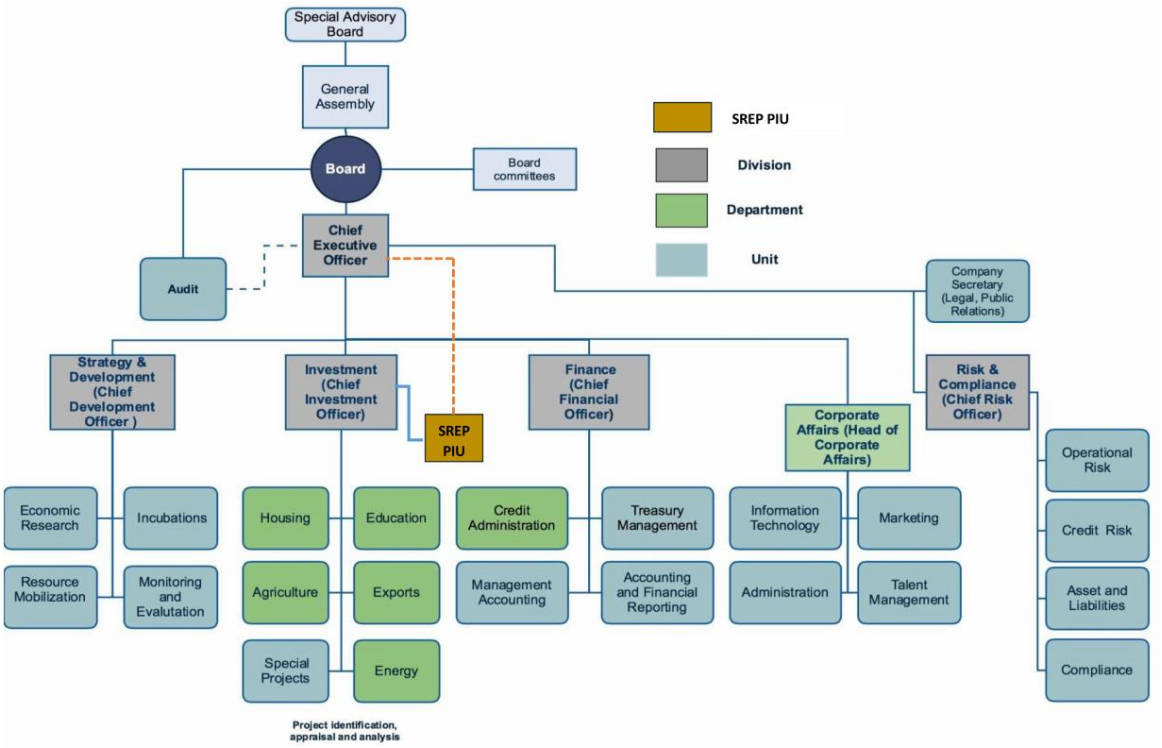
A recent review[6] of the three financing institutions (See Annex 2) that could manage the future Renewable Energy Fund (REF) concluded that BRD is the most appropriate institution because:

- BRD is subject to prudential regulations and supervision by BNR. It is obliged to follow best-practice recommendations, which are reviewed by the BNR on systematic basis.
- Its new business strategy includes energy as one of the five key focus areas. Technical capacity is increasing from 120 staff today to 195 staff, ensuring that BRD will be able to successfully achieve targets in the new business areas.
- BRD is in good financial condition, with adequate income and financial management capacity. BRD has adequate capital. It will not need additional capital to promptly start on-lending and REF management.
- Of the three institutions, BRD is the only one that already has experience in providing direct lending and on-lending, managing loan portfolios and providing services expected to be offered and used under the REF project.
- BRD has adequate risk management capacity, including financial and operational risks. Its credit appraisal and management is significantly better compared to the other two institutions. Given the existing experience, the necessary training needs would be clearly identified and easier to deliver.
- Effective REF management and on-lending implementation and supervision requires effective and good quality support functions, including accounting and bookkeeping, an effective internal audit function and good information systems and management reporting, interconnectivity and IT support. BRD is significantly better in meeting these objectives that the other two institutions.

[6] Rwanda – Development Bank of Rwanda – BRD; Assessment of Capacity to be an Effective REF Facility Management Unit.

MINECOFIN confirmed that BRD will manage the USD 50 million Rwandan SREP funds (of which 45% is grant and 55% is concessional financing) and the REF project will be implement by done by a Project Implementation Unit that is to be established.

An organigram of BRD including the REF Project Implementation Unit is given below.



The overall responsibility of the REF project implementation resides with the BRD Chief Executive Officer supported by the Chief Investment Officer and the Senior Manager-Energy Financing.

A capacity gap analysis carried out by the World Bank in November 2016 revealed that BRD needs additional capacity to carry out M&E for the 4 renewable energy financing windows (SACCOs, banks, mini-grid developers and locally-registered off-grid solar companies), as well as to increase its risk assessment capacity, and its capacity to involve SACCOs and improve their operations (See Chapter 2). Therefore, the REF project contains a component on Technical Assistance, capacity building and project implementation support, targeting BRD, SACCOs, banks and private companies.

As both the REF and the present PSPE intervention target BRD with capacity building activities, the PSPE was developed in synergy and harmonized with the REF project.

1.6 Private sector participation in electricity generation from renewable sources

A distinction is made between private developers for on-grid and off-grid renewable energy activities.

1.6.1 On-grid

Among the 20 MHPs operated on-grid, only 6 are run by the public utility, EUCL. The remaining are either privately owned and operated (Independent Power Producer, IPP) or leased. Outside the hydro IPPs, are other IPPs such as the 25MW KivuWatt Methane Power plant, the 8MW solar-to-power ASYV plant and the 250kWp Kigali Solaire.

In 2013, REG (former EWSA) commissioned the feasibility studies of 69 hydropower sites. Some of the viable sites have so far been awarded to different private developers. Within the same list, 9 sites

were tendered out through a greenfield tender, jointly conducted by REG (EWSA) and EnDev Rwanda, in 2014. Based on a two-stage tender process, 4 investors were awarded to develop 6 sites. In June 2016, PPAs and concession agreements were awarded to 4 of the six sites, developed by three locally registered Special Purpose Vehicles (SPVs) or companies.

In 2015, the GoR successfully leased out 15 MHPs for 25 years to five companies. The competitive selection of companies was carried through a tender done in 2014. The companies signed leasing agreements with the GoR and PPAs with EUCL. The agreements include leasing fees and clauses regarding investments that the companies are required to make in order to improve the efficiency and ensure reliability of the plants.

In June 2016, 7 privately developed hydropower plants with a total capacity of 16 MW were under different phases of construction, with commercial operation dates planned between 2016 and 2017[7].

1.6.2 Off-grid

In Rwanda, off-grid electricity access is provided mainly through small mini grid (pico-hydro or solar PV) and stand-alone solar PV systems. Mini-grids are not new in Rwanda, pico-hydro powered village grid plants are found across the country, particularly in the western province. These plants are mainly developed by local entrepreneurs. In some cases, the local administration initiates such projects, which are later managed by the community.

The Stand-alone solar PV systems for households have gained momentum over the last 4-5 years. The products are basically in two kinds:

- The Solar Home Systems (SHS): described as systems that a) are larger than 10 Wp, b) are sold over the counter as components and c) are designed and installed by the end-user or small contractors.
- Pico-PV products: these are “Plug-and-Play” products, less than 15 Wp, which require no design and very little installation support. They typically have one to four lighting points, a charging outlet for mobile phones, and, often, a radio plug or outlet for a small TV.

Several international companies supplying SHS have already established businesses in Rwanda. Examples include companies such as MOBISOL, IGNITE, BBOXX, NOTS, OFFGRID ELECTRIC, AZURI, etc. The companies offer different packages of pay-as-you-go (PAYG) model. The model allows households to spread out payment for the equipment over a period of months or years to help make the systems affordable.

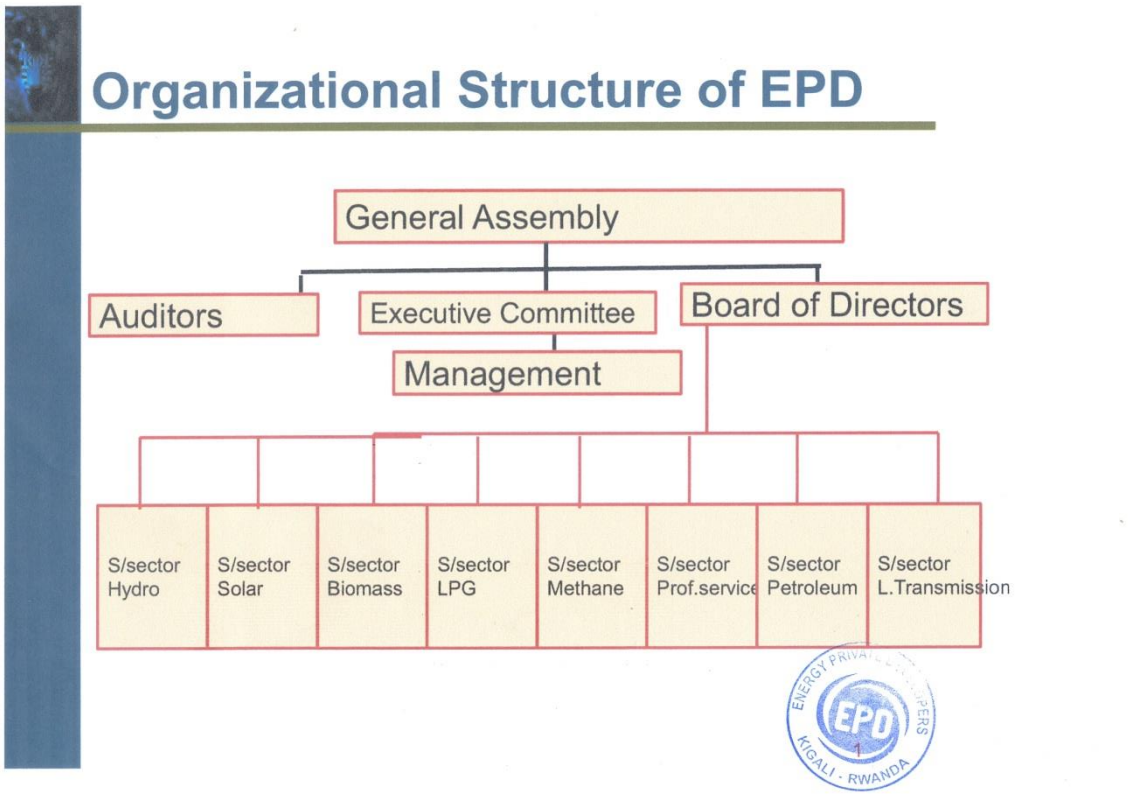
In early 2014, MOBISOL was awarded a grant under the 11th European Development Fund (EDF) to setup a market for Rent-to-own SHS. The goal of the project is to provide 49,000 households and 1,000 schools with solar power systems. In January 2016, Ignite Power ltd signed an agreement with the GoR to provide off-grid SHS to 250,000 households across the country[8]. Ignite intends to invest a total of $50 million over a period of five years. There are a few small local companies involved in disseminating (selling) PV equipment and all are members of the EPD (see below).

1.6.3 EPD

Energy Private Developers Association is a legal professional membership association that groups all private companies operating in the energy sector of Rwanda. Its constitution and articles were published in the official gazette of Rwanda (Official Gazette No 41 of 13/10/2014). It was founded by 25 companies. In February 2017, EPD had 89 member companies, grouped in 8 chapters (see organizational structure below).

[7] Rwanda hydropower Atlas, July 2016.
[8] Media report, The New Times, January 10th, 2016.

Figure 4: Organizational structure of EPD



The association officially launched its activities in November 2015. EPD is a member association of the chamber of industry, under the umbrella of Private Sector Federation (PSF) of Rwanda.

The objectives of the association are:

- To become a forum of partnership and development of the energy cluster in Rwanda,
- To advocate for private entities operating in energy cluster by harmonizing collaboration amongst themselves and public/private institutions,
- To share experiences and good practices,
- To enhance national & international cooperation in order to acquire advanced knowledge, new technologies and new partnership with foreign companies and investors to develop energy cluster in Rwanda,
- To perform any other activity related to energy cluster non-prohibited by the law of Republic of Rwanda.

EPD has, in the few years since its creation, managed to position itself as the main interlocutor of the private companies operating in the energy sector. The association regularly participates in the sector working group and has actively contributed to most of the recent policy and strategy reports such the recently approved ESSP and RES.

The focus of electricity access in Rwanda has been on grid extension until the new energy policy was approved in March 2015, and a target of 22% of the population with electricity access by 2018 has been set through off-grid solutions. Barriers to entry to the market are relatively low, and competition between different firms to supply households should help to bring down costs and increase choice. Private markets are already active in Rwanda. Very small solar equipment such as solar lanterns are already spreading widely, with over 300,000 households (15%) having access to such equipment. However, electricity access implies more than just solar lanterns. In order to meet the Government's

target for off-grid energy access, market transformation is needed to overcome a number of barriers as noted below.

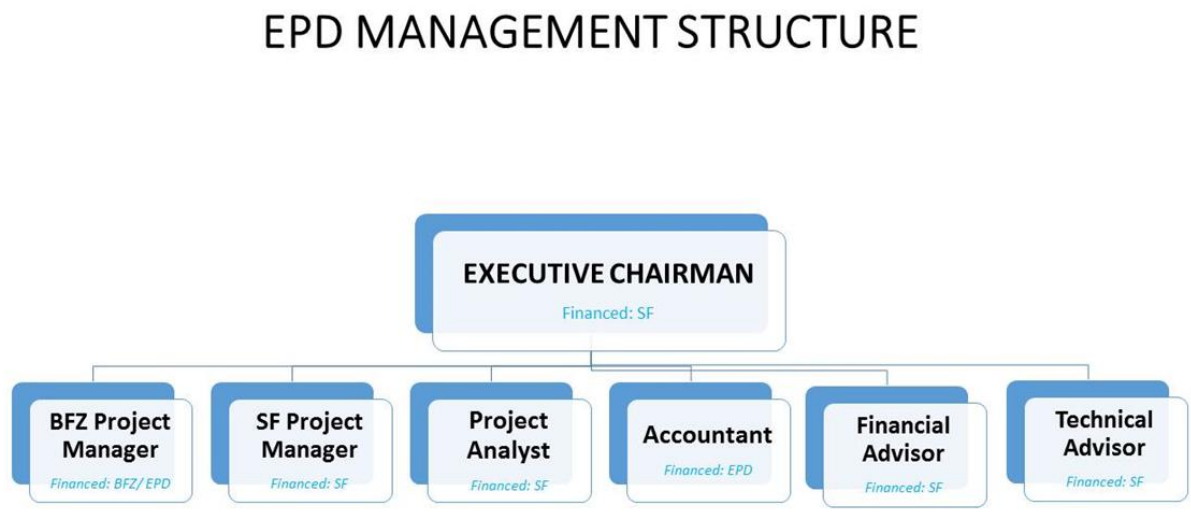
Presently, EPD is supported by two organizations: the Bavarian Employers Federation (BFZ) and the Shell Foundation (SF), as shown in the table below:

Table 1 : Support given to EPD

Supporting Organization	Duration of support	Amount (US $)
BFZ	11/2015 until 10/2018	400.000
SF	06/2016 until 05/2018 (possible continuation of support)	300.000

EPD employs 6 staff full time and 1 staff part-time (2/5), according to the following structure:

Figure 5: Management structure of EPD



SF funds the part-time Executive chairman (2/5) and 4 full-time positions: SF Project Manager, a Project analyst, a financial advisor and a Technical advisor. BFZ funds partially their Project manager.

EPD provides monthly, quarterly and annual reports to its donors. An organizational assessment of EPD was done by BTC during the formulation stage.

1.7 Constraints to off-grid renewable energy development

1.7.1 Financial constraints

A. Private sector perspective

Energy companies developing either mini-grids or providing pay-as-you-go business models for solar home systems face cash-flow risks because the main prospective customers are low-income households. Their overall ability to pay is limited because of low and fluctuating income levels of their clients, making it difficult to comply with monthly payments. Access to finance remains difficult and most energy projects become commercially not viable if subjected to the traditional financing products offered by the commercial banks. Local financial institutions do not want to finance such investments unless a PPA agreement is in effect. Unfamiliarity with the issues and lack of information about mitigation possibilities leaves access to capital a barrier in the sector. Banks consider project sizes either to be too small or too large and not in the range that they would be comfortable with. Companies often face requirements for very high levels of collateral, and there is a lack of experience amongst local financial institutions of undertaking project financing based on future income as the asset base.

Companies are therefore constrained in their ability to access debt finance at a scale that would enable the required market growth rates. Energy companies may also lack the necessary experience and technical capacity to submit high quality proposals and applications for finance.

Taxes and import duties for equipment can also be a barrier. Although rules have been published (East African Customs Management Act; the Law on VAT Nº 02/2015 of 25/02/2015; an updated list of RE equipment benefitting from VAT exemptions has been published by MINECOFIN on 30/07/2015), but interpretation and implementation by the Rwanda Revenue Authority is not always clear.

B. End-user perspective

Despite the rapid technological progress of off-grid energy systems, and a sharp price decrease for solar panels, batteries and power electronics, the true cost of electricity for Tier level 3 and above is still very high (often more than 1€/kWh in mini-grids), and higher than many households can afford (except for lighting and phone charging). If true costs are applied, demand will remain low: as the cost of ownership (investment + electricity cost) of electrical appliances is high, households will refrain from buying these appliances. The introduction of subsidies has helped to decrease these user tariff rates. Programmes (e.g. Endev, see further), where subsidies are offered to the private investor as initial investment, allow end-users to purchase electricity at reasonable (subsidized) tariffs.

1.7.2 The market

Solar systems: consolidating

Households without electricity access rely on a mixture of dry-cell batteries and candles for their lighting requirements. Replacing these with solar PV means replacing a weekly or monthly expenditure on energy products with an upfront payment for the equipment. This is cost-effective in the long-term, but presents an upfront barrier for many households. Approaches that are proving promising in Rwanda are pay-as-you-go (PAYG) models where households pay a monthly fee, which spreads out the capital cost over a number of years.

The market needs further development while awareness of such systems amongst households remains low. Also savings and credit cooperatives (SACCO) can provide end-user finance to cover the up-front investment in a solar home system.

Several large international actors are present in Rwanda with dense retail and logistics networks. These actors are currently competing for the market, which is also consolidating. Smaller actors with less experience, trained staff, access to finance and proportionally more overhead costs are having trouble to start up due to the dominance of these large international actors.

Mini-grids: nascent

The mini-grids market is in very early stages of development. Only few mini-grids are currently in operation in Rwanda. The “technico-economic” space for mini-grids seems to be rather small, mainly due to absence of sufficient solvable demand (business clients) in off-grid areas and to the proximity of the medium voltage grid at most sites, making a grid connection often cheaper than an isolated production plant.

Companies should plan mini-grids in areas that are not immediately targeted for grid extension, but in the absence of a master plan for grid extension this is difficult. There is also need for an effective compensation mechanism in off-grid regulation spectrum. This will decide the success or failure of any private sector oriented mini-grid policy. While most companies are technically capable of constructing a mini-grid, they would like to see a commercially-run, private sector-based mini-grid, demonstrating a commercial business case and successful customer tariff collection in order to better understand the commercial risks involved. Since these examples are currently lacking, investors face high levels of investment risk. In fact, there is a lack of capacity to initiate and develop mini-grid energy projects at all levels.

1.7.3 Inadequate technical standards

For stand-alone solar PV systems, there are a number of internationally recognized standards (e.g. IEC or Lighting Global) that were officially adopted or enforced by the Rwanda Standards Board (RSB). Public awareness of the need for and benefits of higher-quality equipment has been carried out and the enforcement of these standards is currently being implemented at every importation.

The Rwanda Grid Code only covers medium voltage distribution, and the existing national standards are limited to electrical wiring of premises and to power installations exceeding 1kV. EDCL currently provides some guidance with their design standards and guidelines for EARP rural electrification, but there is no overall specification in the grid code to regulate standards for low voltage distribution and feed in of electricity into the low voltage grid from prospective mini-grid projects. This creates uncertainty over the technical standards that should be specified for projects, and uncertainty over the potential costs that might arise in the future should mini-grid projects that are initially isolated from the grid eventually become integrated with the main grid if it expands to that area.

1.7.4 Capacity constraints

Networks of technicians to distribute, install and service PV systems exist but will have to grow over the next few years to meet the demand. A number of barriers need to be overcome regarding coordination, dialogue and exchange among all stakeholders in the PV sector, including NGOs and finance institutions. Some training programs (e.g. Tumba College of Technology, KIST) exist but do not provide the numbers or range of different qualified technicians needed to service this sector. For mini-grids the lack of market experience, and limited commercial funding opportunities, make it difficult for local companies to present bankable business plans.

1.7.5 Institutional constraints

Institutional arrangements in the electricity sector has over the past years focused on roll-out of the grid while off-grid access received less attention. To date MININFRA and REG with other institutions have developed capacities that focus on off-grid access and plans are currently being developed to address:

(i) specify geographic area or socioeconomic strata of the population that shall be targeted by off-grid service approaches such as stand-alone system (pico PV, SHS) or mini-grids;

(ii) strategic coordination between different off-grid support programs is currently in place and this has reduced the overlap of some programs which will in the long-term lead to market growth.

1.7.6 Legal and regulatory constraints

The legal and regulatory arrangements for stand-alone solar home systems in general do not represent a major barrier to market

The investment process has currently been streamlined following the introduction of the Public Private Partnership (PPP) law that regulates the process of awarding projects to IPPs. RURA also developed a simplified licensing framework for rural electrification, but there is still lack of clarity on the commercial details such as end user tariffs and eventual connection to the grid. An Environmental Impact Assessment (EIA) is required for any acts concerned with water resources and construction of roads and dams. Companies need to clarify with RDB on a case by case basis to what extent an EIA is required for their projects. Until such clarification can be reached, the costs for the EIA cannot be estimated in advance. Most pico-hydro developers are as yet unaware that the National Policy for Water Resource Management (2011, p. 126) provides MINIRENA with the possibility to levy water usage fees.

2 STRATEGIC ORIENTATIONS

2.1 Guiding principles

The focus for the present intervention is based on two considerations: (i) the Belgian Government intention to assist the Government of Rwanda in improving access to reliable, cost effective and renewable electricity services with emphasis on the poor, and (ii) the Government of Rwanda's intention to improve lives for all Rwandans through the ESSP and the Rural Electrification Strategy.

The PSPE has been designed to support the Rural Electrification Strategy by facilitating private project developers to contribute to the RES objectives of increasing access to electricity in rural areas, with an exclusive focus on sustainable energy and mainly in the off-grid area. For this to happen, project developers need to have confidence that conditions are conducive for them to invest in renewable energy technology, that they will receive a return on their investments, and that the banking system can assist them correspondingly.

The focus of this intervention is:

i. Contribute to increase energy generation in the country by leveraging private sector investment.

ii. Remove barriers for private sector investment by:

   - Building capacities of private sector developers in terms of both technical and business aspects of energy project;
   - Providing TA support for identifying investment opportunities, increase assessment capacity for determining the viability, and develop analytical tools and selection criteria for projects, procedures, etc.

iii. Emphasis on increasing sustainability, efficiency and effectiveness of electricity access efforts, and scaling up private sector investment by providing support

Concrete activities to shape those orientations are provided in the intervention framework in chapter 3.

The PSPE intervention was developed in harmonization and synergy with the REF project, in order to be complementary and avoid overlaps.

2.2 Implementation principles

For the intervention implementation, the current TFF is embedded in following key principles:

- Intervention flexibility is key for private investors; the Steering Committee (SC) should timely adapt support under the project according to the priorities at the time of the intervention.
- From planning until operation, the intervention will collaborate with BRD and keep MININFRA and REG informed as well as other stakeholders.
- Human Resources Management will be aligned as much as possible with the implementing bodies.
- The harmonization exercise (with REF and possibly other actors) will continue during the implementation, under the leadership of BRD who is managing PSPE and REF.

2.3 Theory of Change

Figure 6 shows a schematic overview of the theory of change for the PSPE intervention

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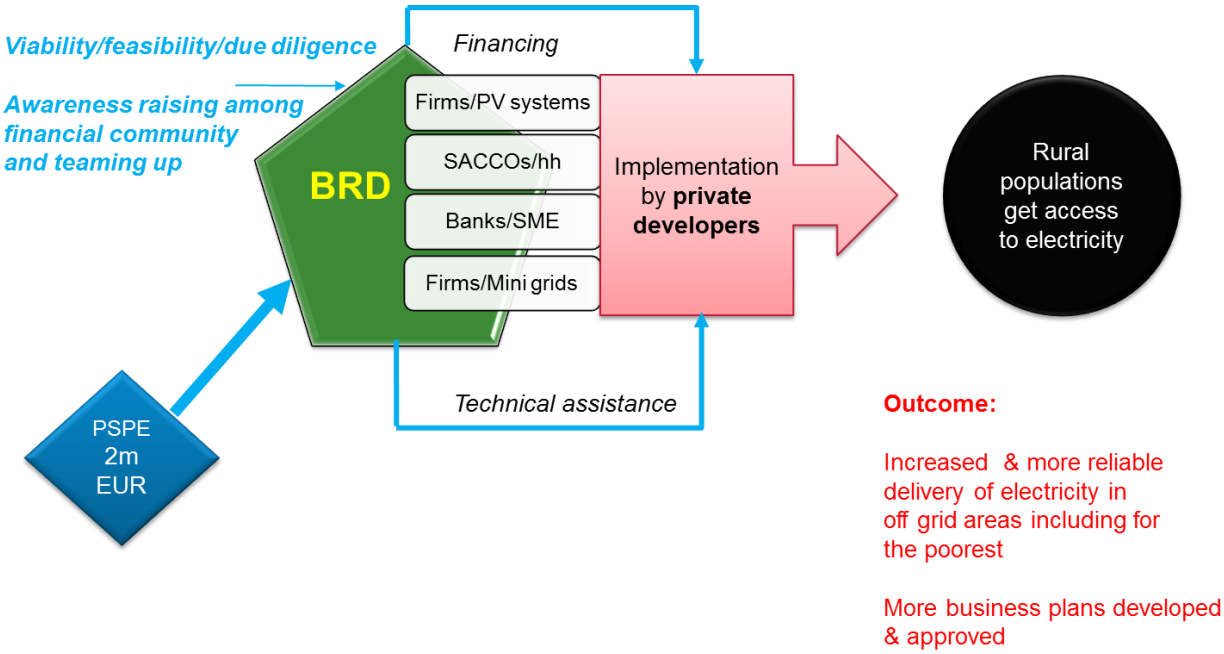


Globally, the theory of change for this intervention is that by lifting some of the main barriers for private sector development (discussed in chapter 1), more private investment will be attracted to the country, increasing electricity access in rural areas. More specifically, the help in project preparation (business plans, market intelligence), combined with easier access to finance through various mechanisms, is expected to increase the number of privately developed projects, and in the end also increase electricity access rates in rural areas.

Although PSPE does not invest in actual projects, it will unleash a large amount of financing for the investment in renewable energy projects through REF and as such contribute to the general objective of providing energy access for all Rwandans.

2.4 Beneficiaries

The beneficiaries of the intervention are:

- The Development Bank of Rwanda (BRD): the bank will benefit from TA support to upgrade the skills of the staff, and to develop financing instruments and procedures that are customized to renewable energy and electricity access projects.
- Private companies (project developers) providing electrification services (mini-grids, PAYG) or disseminating renewable energy equipment, benefitting from access to finance, training and project development support and networking with other (inter)national companies. EPD members can be among those beneficiaries.
- End-users, such as rural households; social facilities: health centers, schools and local administration offices; and businesses and small industries benefiting from productive use of electricity;
- Rwanda´s financing sector will also benefit from the intervention through financing via BRD (on-lending) through knowledge sharing and by building bridges between financing institutions that are active on the market (SACCOs, banks & MFIs)

As this is a demand driven support intervention, it is not possible to determine with much precision how many beneficiaries there will be, and of which category. However, for private investments to be viable, a return on investment is needed. This means that businesses and small industries should in principle be well represented rural households, either through the purchase or hire-purchase of PV systems would also be a large category of beneficiaries. REF estimates that 1.2 million people, and some 80,000 businesses and community services will benefit from the REF project.

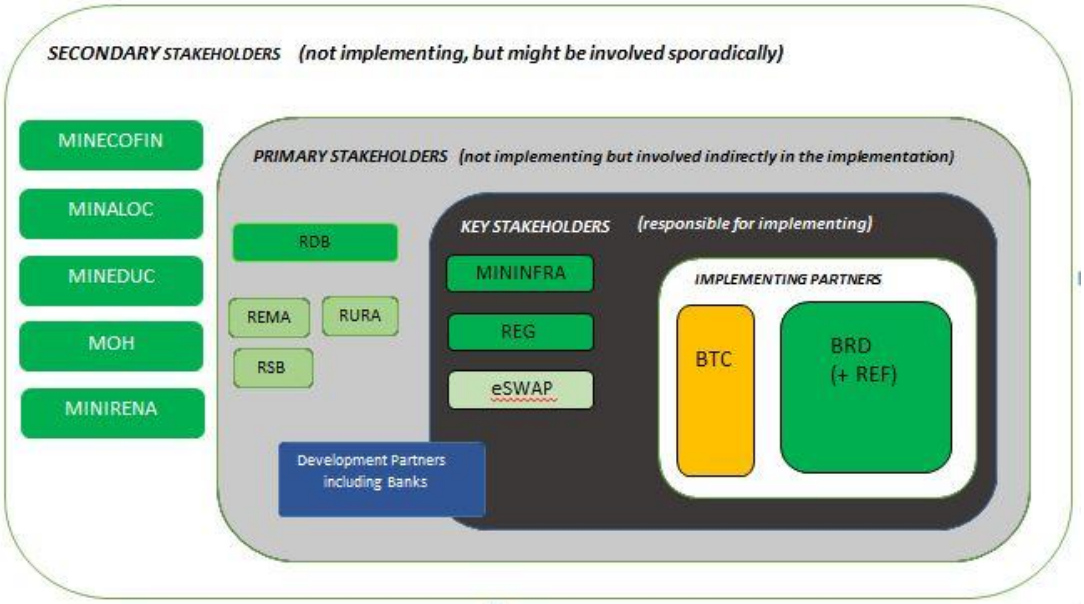
The positive impacts of the private sector involvement in electricity generation are numerous as they provide significant leverage towards building a clean, reliable and sustainable domestic supply.

As a consequence, the quality of life and extent of economic opportunity will be changed for the better. Social and environmental costs, not least in noise, air pollution and carbon emission[9] associated with existing generator usage will be reduced and there will be less demand for fuel for lighting.

2.5 Stakeholders

An overview of the main stakeholders involved is presented in Figure 7.

Figure 7: Stakeholders map



2.5.1 Implementing partner

The Implementing partner is BRD, together with BTC. BRD is responsible for the financing aspect of renewable energy project development and for developing a pipeline of potential activities and identifying potential investors. Annex 3 shows BRD's organizational chart.

MININFRA, as the primary responsible organization in the energy sector and REG, as the main organization providing and expanding grid electricity, will be part of the Steering Committee. The eSWAP secretariat will be important for coordinating between all stakeholders involved.

The REF as stakeholder is included under BRD, who is managing it.

[9]The 2013 electricity grid emission factor for Rwanda was 0.53 $tCO_{2\,eq}$/MWh compared to 1,70 $tCO_{2\,eq}$/MWh with small diesel generators that is presumably the default off-grid electricity generation option. The assumed baseline technology is an inefficient diesel generator with a low energy conversion coefficient and a Load Factor of 25% or even lower.

2.5.2 Key stakeholders

2.5.2.1 MININFRA

The Ministry of Infrastructure (MININFRA) is the lead Ministry responsible for developing energy policies and strategies, and for monitoring and evaluating projects and intervention implementation. It is in charge of setting an enabling policy and legal framework for the sector, including a suggested general approach to the optimal use of state subsidies in the sector, budget preparation, resource mobilization (together with MINECOFIN), and political oversight over Government programs designed to expand energy access and service provision.

MININFRA chairs the Sector Working Group (SWG) and the Sector Wide Approach (SWAp) Secretariat, to better coordinate activities in the sector between the various stakeholders. Technical Working Groups (TWG) have also been established to support and advise the eSWG in the overall implementation of the SWAP: (i) Access, (ii) Generation and (iii) Biomass.

2.5.2.2 The eSWAP secretariat

The Energy Sector Wide Approach (eSWAp) secretariat is financed by Belgium through BTC and is based in the MININFRA. It is mandated to ensure overall coordination in the energy sector. The role of the Secretariat is to assist the chair (MININFRA) and the co-chair (World Bank)of the eSWG to bring stakeholders together to contribute to policy and strategy formulation, facilitate eSWG meetings, help to coordinate development partners (DPs), through dialogue aimed at harmonizing the needs and address sectorial issues.

2.5.2.3 REG

Rwanda Energy Group Ltd. (REG) is the state owned entity that has the legal mandate to translate energy sector policies and programs into the implementation of tangible projects to achieve Government's vision in the sector and to efficiently operate and maintain the country's power transmission system through two subsidiaries:

Energy Utility Corporation Limited (EUCL): The EUCL is in charge of day-to-day operations of power generation, transmission, distribution and sales to final customers. The EUCL is responsible for planning the transmission and distribution areas already covered by electrification and promoting energy efficiency and demand side management programs.

Energy Development Corporation Limited (EDCL): The EDCL is responsible for developing both generation and transmission projects, exploiting new energy resources, and executing a least cost power development plant. Its core objective is to facilitate the development and exploitation of domestic energy resources and investments.

2.5.3 Primary stakeholders

2.5.3.1 RDB

Rwanda Development Board (RDB) plays the lead role in investment mobilization and promotion for the energy sector, acting as a gateway and facilitator. It actively promotes private investor participation in the energy sector, including local financial institutions. It leads facilitation of foreign direct investment (FDI) into strategic energy generation projects, as well as other programs and activities involving cleaner and more energy-efficient technologies. RDB also issues Environmental Impact Assessments for all energy related projects for which one is required. It also hosts an advisory team for PPPs across Government. RDB has one staff financed by the Africa-EU Renewable Energy Cooperation Program (RECP), which intends to become more operational in Rwanda in the near future.

2.5.3.2 REMA

Rwanda Environment Management Authority (REMA) is responsible for the protection of the environment. REMA is involved in supervision and monitoring of environmental aspects and will play the leading oversight role of environmental monitoring of PSPE activities. REMA will verify that environmental management plans (EMPs) are available for all PSPE and SREP supported investment activities (REF).

2.5.3.3 RURA

Rwanda Utilities Regulatory Agency (RURA) is a national institution established for the Regulation of Public Utilities (Energy, Telecommunications, Water and Sanitation, and Transport). The scope of its mandate involving electricity extends to public utilities and private operators involved in renewable and non-renewable energy generation, distribution, and transmission. As the regulator, RURA's principal mandate is to ensure consumer protection from uncompetitive practices while ensuring that such utilities operate in an efficient, sustainable, and reliable manner. RURA also has the important role of updating the electric grid and off-grid code, ensuring quality of service standards for power, assessing and reviewing energy tariff structures, licensing all power generation, transmission, and distribution companies. Particularly regulation of off-grid systems (mini-grids) needs to be strengthened and updated.

2.5.3.4 RSB

Rwanda Standards Board (RSB) develops national technical regulations including national technology and performance standards. RSB plays an increasingly important role in establishing, publishing, and disseminating national standards for energy technologies such as biogas digesters and solar appliances.

A description of other stakeholders, such as development partners and secondary stakeholders, and their main intervention can be found in Annex 4.

3 INTERVENTION FRAMEWORK

3.1 General objective

The energy sector is able to provide sufficient, reliable and affordable energy for all Rwandans

The general objective is shared with other BTC interventions in the energy sector. It is fully aligned with ESSP long term vision whereby public and private sector stakeholders provide complementary inputs to creating access to modern energy for all Rwandans. The focus of PSPE is to unlock the potential of the private sector while contributing to the general public objective of providing energy for all Rwandans.

Specific attention will be given to contribute to an enabling environment for Women's entrepreneurs to join the private sector in Energy.

3.2 Specific objective

The generation and distribution of electricity from renewable resources is increased by the participation of the private sector.

The specific objective is designed in synergy and harmony with the REF project in Rwanda:

- The **generation** of electricity from renewable energy sources is explicitly stated in the objective, and **participation of private sector** implicitly requires viable activities. This means that the electricity consumed must either be paid for by beneficiaries or through a combination of transparent subsidies and user contributions. The importance of actual usage of electricity is emphasized (i.e. going beyond just number of connections) for both beneficiaries and electricity suppliers by being part of the new energy access definition and the Global Tracking Framework.
- The **distribution** of electricity from renewable energy can (according to the electricity law) take the form of a small network connecting beneficiaries or individual equipment provided to a group of beneficiaries.
- **Enterprises** are especially included as beneficiaries, together with households and priority public institutions. Commercial businesses and small industries are the most interesting viable customers for private electricity suppliers, and in addition they also play a central role in the socio-economic development of rural areas. The supplier of electricity has higher chances of success when several enterprises are among his clients.
- It is acknowledged that there is very few female acting as Managing directors of Private companies in the sector. **Women's** entrepreneurs will be identified as a specific target to be reached.
- Local banks and financing institutions such as SACCOs are also beneficiaries through on-lending to groups of households or firms in providing access to electricity from renewable energy sources.
- Mini grids and solar systems are especially targeted in **peri**-urban and rural areas where the electricity grid will not be extended, although the distribution from on-grid renewable electricity cannot be excluded.

3.3 Expected results and activities

PSPE will provide mainly capacity building services private project developers to or via the Development Bank of Rwanda (BRD) tin order to access more easily a large amount of financing for

the development of renewable energy projects. The two components of PSPE are:

- Increase the capacity of the BRD to undertake renewable energy investments. PSPE will work with BRD staff to improve risk analysis of renewable energy projects and fully enable them to assess and appraise renewable energy project proposals from private project developers.
- Assist BRD in the development of a project pipeline, through reaching out, communicating and coordinating with other financing institutions and with the private sector. Assist the private sector, via relevant organizations, to identify bankable renewable energy projects, and build the capacity of potential entrepreneurs to develop high quality business plans.

The logical framework is presented in Annex 5 and a timetable for the activities in Annex 6.

Activities need to be permanently harmonized with the WB REF project, which has a large portion allocated to technical assistance component for capacity building of BRD and financing institutions such as SACCO's. BRD (REF PIU management) will make sure synergies are maximized and overlaps are minimized in the activities.

3.3.1 Result 1: BRD is able to analyze the viability of renewable energy project proposals

As a result of the PSPE intervention, BRD staff will be fully able to analyze and carry out due diligence on renewable energy project proposals. To this end, analytical tools will be developed and BRD staff will be trained in its use. A gap analysis carried out by the World Bank in November 2016 showed that BRD's capacity could be improved in three areas: (i) carry out risk analysis of project proposals; (ii) M&E of project activities by clients (Banks, SACCO's, companies); and (iii) assist clients (particularly SACCO's) to improve internal project management capacity.

BRD is a key implementing partner that can greatly contribute to raising awareness on importance to address needs of male and female specifically in access to finance. See chapter 6.2 for the role and commitments of BRD with respect to gender.

The capacity building will target all BRD staff, with a focus on the REF implementing unit and staff.

Three specific activities have been identified to reach this result:

3.3.1.1 Activity 1.1: Technical assistance through expertise in renewable energy financing

The intervention will finance a service contract for a full time expert for three years at BRD. The expert will train and coach BRD staff in the analysis of renewable energy project proposals, and will support all activities of the intervention.

The activity also includes complementary expertise to the aforementioned expert, to be allocated based on the needs and opportunities as the intervention evolves.

Full draft ToR for the main expert are presented in Annex 7.

A budget of **€ 540,000** is foreseen for implementing this activity.

3.3.1.2 Activity 1.2: Development of tools for analyzing renewable energy investments

The methodologies, analytical tools and software needed by BRD staff for proper risk assessment, due diligence and monitoring & evaluations will be developed. Existing tools (e.g. PSP-Hydro) will be analyzed and possibly recycled/updated/extended.

Monitoring and reporting on progress will be included as well. Short-term TA can initially be provided to adapt these tools to other renewable energy technologies and ensure proficiency among BRD staff in

its usage. The tools will be applied by BRD staff when they review the feasibility of the renewable energy projects, and a slimmed down version may be shared with project developers for them to use to prepare their business plans. The whole process to develop these tools will take gender strategies, gender accountability and gender indicators into consideration.

Compliance with environmental and gender regulations and good practices will be included in the proposal analysis.

A budget of **€ 200,000** is foreseen for implementing this activity, to be used for the purchase of existing tools or for (further) development of tools by external experts.

3.3.1.3 Activity 1.3: Specific training on analyzing renewable energy investments.

This is a provision for external training courses on specific issues supporting the development and use of tools mentioned in Activity 1.2, and possible study visits to local and international best-practice examples could also be envisaged, to demonstrate the practical aspects of the analytical tools and software used to carry out due diligence of renewable energy project financing.

Access to female entrepreneurs during study-tours and visits will be encouraged and facilitated.

A budget of **€ 100,000** is foreseen for implementing this activity.

Result 2: BRD is able to proactively identify a pipeline of potentially viable projects and to assist the private sector to develop them

While Result 1 focusses on the staff capacity of the BRD itself, Result 2 supports BRD in reaching out to (i) other financial institutions, particularly those who are in touch with rural customers, such as agricultural SACCOs; and (ii) private companies applying for BRD credit.

BRD should actively try to line up viable projects for the supply of renewable electricity to rural customers via these two channels.

BRD will also provide capacity building to prospective entrepreneurs and project bearers. Three specific activities have been identified to realize this assistance.

Note that capacity building of SACCOs to manage the end user credits is covered by the REF technical assistance component.

Activity 2.1: Reach out to financial institutions and private companies and linking up with the various stakeholders

A budget of **€ 190,000** is foreseen for implementing this activity. The proceeds can be used to communicate to different stakeholders:

- assist financial institutions (SACCO's, commercial banks) to reach out to their members (SME's and households) via appropriate communication methods
- communicate on the different (financial) products and opportunities offered by BRD via digital and classic media, folders etc.
- communicate on case studies, success stories, lessons learned and recommendations, in order to raise interest from financial institutions and private companies
- contract technical expertise to develop/support/implement the above communication activities

- ensure presentation of achievements and effects of engendered strategies implemented by the intervention
- ensure appropriate channels of communication to reach Women's entrepreneurs audience.

- Mutual exchange of information on initiatives, opportunities, development partner support, feedback from stakeholders
- Organization/sponsoring of workshops, conferences and networking events
- Develop synergies between stakeholders activities and avoid overlaps
- Linking/synergies with all other financing initiatives (RECP, Endev) will be paramount.
- Ensure that the Chamber of Women entrepreneur, National Women Council, GMO or other key actors promoting female entrepreneurship will be linked up
- Ensure equality in participation of workshops, etc...

Activity 2.2: Capacity building among local companies to develop bankable business plans

The capacity of local project developers is still nascent, and to overcome this, BRD offers both business incubation and business improvement services. This is done through a thorough investigation of proposed business plans jointly with the project developer or subcontracted local experts, with the intention to improve these business plans to the point that they successfully can be submitted to BRD or another bank. In designing capacity building strategies, plans and targets, BRD will address Women's entrepreneurs' specific needs.

The following activities are foreseen:

- Training sessions for private sector members on mini-grid solutions, including Geographic Information System (GIS) and village level mapping; Rural electrification planning; Electricity load forecasting; Designing and sizing solar PV power plant for mini-grid electrification in rural areas; Pre-feasibility studies of pico & mini hydropower plants; Pre-feasibility studies of electricity production projects based on biomass feedstock; Economic & financial analysis of decentralized rural electrification projects;
- Training sessions for private sector members on business plan development, including coaching and mentorship to submit actual business plan proposals to the BRD
- Constitution of part-time experts to coach and mentor energy business plans from private sector members
- Develop capacity for developers to identify villages suitable for mini-grids, carry out their pre-feasibility studies and assessment of level of involvement by local communities. This is to be done in coordination with EDCL that is carrying out a mini-grid study for 20 villages including feasibility study.
- Organize gender-sensitive basic business training packages to private sector members.

The budget for this activity will be € **188,800**.

Activity 2.3: Match making between local companies and international parties interested in renewable energy electrification and in promoting Women's entrepreneurship in the sector in Rwanda

International project developers remain often in the dark when looking for potential local partners. Matchmaking is in RDB's attribution, and focuses is on identifying possible international partners for teaming up with local partners. The following is expected to be pursued:

- Organizing international energy investment & partnership forum in Rwanda.
- Linking Rwandan companies to foreign businesspeople coming to Rwanda.
- Organizing executive committee tours abroad for business discussions and attracting foreign businesspeople for possible energy investment partnership with local companies in Rwanda
- Topics on the agenda of international conferences and study tours would include promotion of Women's entrepreneurship in the sector

€ 75,000 will be allocated to this activity.

3.4 Monitoring and evaluation

Monitoring and evaluation will be done by BRD as part of their normal operations. All macro-indicators in the energy sector are in line with EDPRS. Private sector participation in renewable energy projects will require a separate monitoring framework.

A Mid-Term Review and Final Evaluation will be carried out by the intervention. M&E is a permanent activity of the intervention (see chapter 5.8 on Quality management). The M&E system will be designed to take gender desegregated data and any specificity of gender-sensitive indicators into account. During the comprehensive baseline process, the intervention will identify additional outcome and impact indicators to address the effect of gender-sensitive strategies properly.

Indicators and means of verification are given below.

3.4.1 Global objective

For the global objective "*The energy sector is able to provide sufficient, reliable and affordable energy for all Rwandans" and the* MTF-indicators can be used.

Specific indicators are:

- The number of households with access to electricity from renewable energy sources per Tier level
- Per capita monthly electricity consumption (kWh/inhabitant/month)

Although those indicators appear to be out of the sphere of influence of the intervention and it's impossible to prove the contribution of the PSPE, they are in its sphere of interest and will be collected. Verification sources are the MTF surveys (SE4All progress) and EDPRS M&E report.

3.4.2 Specific objective

For the specific objective: "*The generation and distribution of electricity from renewable resources is increased by the participation of the private sector supported by the intervention.*."

The indicators – and targets are: (a) significant disbursements in RE generation through investments in PV lanterns, PV systems, and mini-grids by private firms, SACCOs, and local banks after 2 years. The target investment level is 10m USD after 2 years, and 20m USD in the two years to follow and (b) the growth of private energy production and distribution in the off-grid sector, expressed in terms of capacity (kW or MW), in terms of financing, or in terms of total beneficiaries reached.

Information will be gathered by BRD in its respective M&E frameworks.

3.4.3 Result indicators

- **Result 1**: *BRD is able to analyze the viability of project proposals and monitor project implementation including reporting.* The indicators are (a) the size of the energy portfolio of BRD, indicated by the number of project proposals that are approved by BRD, and the amount of financing provided) and (b) the capacity of the renewable energy unit of BRD, expressed by the number of staff at BRD able to assess renewable energy projects and by the average time for proposal analysis (delay between proposal received and proposal analyzed).
- **Result 2**: *BRD is able to proactively identify a pipeline of potentially viable projects and to assist private project developers to develop viable project proposals*. The indicators are: (a) the number and value of agreements signed between BRD and financial institutions (SACCOs, MFI, banks), (b) the number and value of loan agreements signed with private companies for the realization of renewable energy projects, (c) the number of entrepreneurs who receive a credit for a bankable project proposals and (d) the number of events campaigns organized and participants at these events (e) the number of project proposals from private project developers that have been supported. It is expected that the majority will be approved for financing. f) the number of companies reached for training and support (g) the number entrepreneurs who benefit from technical support for a project proposals, Note that any result indicator on number of projects/agreements or disbursements is an indirect indicator for the output.

3.4.4 Cross cutting themes indicators

For Environment, the indicator is the amount of GHG avoided by choosing renewable energy technologies for rural electrification. This can be estimated based on the total installed capacity, using hypotheses on the energy sources that would have been used had this capacity not been installed (e.g. kerosene, diesel). Another indicator is the amount of disposable batteries avoided.

For Gender, gender-disaggregation of the beneficiaries indicators is used:

- the number of male/female entrepreneurs who receive a credit for a bankable project proposals
- the number of events campaigns organized and male/female participants at these events
- the number of male/female entrepreneurs who benefit from technical support for a project proposals
- the number of events addressing topics on gender equality.

3.5 Risk Analysis

There are different levels of risk that may impact the performance of the PSPE intervention. Since the PSPE intervention is linked so closely to the REF project, risks for REF may also impact the PSPE. The following tables present the various risk levels for PSPE and REF. (Note that risk management for REF will be the responsibility of BRD, not of PSPE).

3.5.1 Implementation risks

	Risks	Risk Level	Alleviation measure
REF	REG does not share short, medium, and long-term grid extension plans with private project developers	High	Donors (ESWG), BRD and private sector to maintain pressure on MININFRA and REG
	Low income of rural households leads to a small market for renewable energy equipment or services	High	Awareness raising (REF) Collaboration with other initiatives for subsidies to improve business case
	Absence of viable commercial and business activities in non-grid areas leads to small market for renewable energy equipment or services	high	Awareness raising (REF) Subsidies will be needed in some form to reach the poorest households.

3.5.2 Effectiveness risks

	Risks	Risk Level	Alleviation measure
BRD	Gender : technical/financial barriers are too strong and do not allow enough projects lead by female entrepreneurs to emerge in the energy sector	High	Commitment from BRD Regular gender audit of the intervention (GMO) and follow-up of recommendations.
REF	Priority shift on on-grid solutions	Medium	Rwanda's policy (RES) is to connect 31-35% of its population to the grid and the rest through off-grid/mini-grid solutions by 2020. The ESWG should keep the issue alive and ensure that both on- and off-grid are properly addressed.

3.5.3 Sustainability risks

	Risks	Risk Level	Alleviation measure
BRD	BRD drops renewable energy due to small market size	Low	Continued awareness raising to increase the demand
	Lack of retention qualified & trained staff	Low	Working conditions in favor of maintaining a career at BRD.

REF	Program 1 interference with the commercial market for PV equipment	Medium	ESWG to follow-up on the issue.
	Continued subsidies for on-grid electrification, and for electricity supply make off-grid solutions unviable or undesirable[10]	High	Put prominently on the agenda of ESWG
	Policy and structural reforms affecting the intervention negatively	High	Take part to policy discussion during ESWG
	Uncertainty regarding the transfer of assets and compensation to mini-grid IPPs when the grid arrives	Medium	Engage RURA to clarify and enact guidelines to regulate the process of transition from off-grid (mini-grid) to on-grid operation

3.5.4 Fiduciary risks

	Risks	**Risk Level**	**Alleviation measure**
BRD	Use of funds for unintended purpose	Low	Financial controlling measures, internal and external audits are already in place. Intervention activities are continuously under M&E Steering Committee add quality assurance
	Weak funds recording and accounting	Low	BRD financial management system Regular internal BRD accounting controls Progress reports to BTC and SC

[10]Given that both new connections as well as electricity supply is subsidised to cover production-, transmission- and distribution costs, electricity prices are considered too low compared to their cost. However, electricity prices in Rwanda are higher than in neighbouring countries.

4 RESOURCES

Rwandan and Belgian resources will be available for the intervention to implement the proposed activities.

4.1 Financial resources

4.1.1 Rwandan contribution

The Rwandan contribution consists in the following elements:

- Staff at BRD: a senior manager, a technical specialist, and an economist. This contribution is not quantified (and will be financed by REF). In kind contribution
- Provision of sufficient office space for the BTC and BRD staff – not quantified. Office premises (with Internet connection, water and electricity services, parking and security) will be provided by the Rwandan partner institutions to the intervention team in order for them to perform all intervention activities. The offices shall be located in BRD facilities. Estimated at 1,000€/month x 36 months = 36,000€.
- The use of vehicles/transport for the intervention. Estimated at 1,000€/month x 36 months = 36,000€.
- Taxes on the supplies, equipment, and services are covered by the Government of Rwanda as agreed upon in the General Development Cooperation convention between both Governments. These taxes are estimated at 18% (VAT) for local procurement. This can be estimated at 180.000€.

GoR commits to the responsibility to ensure the above listed financial or in kind contributions, regardless of the exact amount.

4.1.2 Belgian contribution

The Belgian contribution for the PSPE intervention is **€ 2 million**. The detailed budget per year is presented in the table below (amounts in EUR). The “modality” mentioned in the table refers to the selected modality for fund disbursement process, see Managing intervention accounts and payments in chapter 5.

It is agreed that 5% of the total budget will be earmarked to finance Gender supporting, sensitive or transformative activities.

Budget line activities are indicative and subject to change during the implementation of the intervention. The modalities for budget adaptations are given in Chapter 5 (Modalities).

RWA 15 096 11 - PSPE				Management Mode	Euro	%	YEAR 1	YEAR 2	YEAR 3
A			**The generation and distribution of electricity from renewable resources is increased by the participation of the private sector**		**1,293,800**	**65%**	**485,000**	**443,800**	**365,000**
A	*01*		*BRD is able to analyze the viability of renewable energy project proposals*		*840,000*	*42%*	*300,000*	*300,000*	*240,000*
A	01	01	Technical assistance through an expert in renewable energy financing	co-management	540,000		180,000	180,000	180,000
A	01	02	Development of tools for analyzing renewable energy investments	co-management	200,000		80,000	80,000	40,000
A	01	03	Specific training on analyzing renewable energy investments	co-management	100,000		40,000	40,000	20,000
A	*02*		*BRD is able to proactively identify a pipeline of potentially viable projects and to assist the private sector to develop them*		*453,800*	*0*	*185,000*	*143,800*	*125,000*
A	02	01	Reach out to financial institutions and private companies and linking up with the various stakeholders	co-management	190,000		80,000	60,000	50,000
A	02	02	Capacity building among local companies to develop bankable business plans	co-management	188,800		80,000	58,800	50,000
A	02	03	Match making between local companies and international parties interested in renewable energy electrification and in promoting Women's entrepreneurship in the sector in Rwanda	co-management	75,000		25,000	25,000	25,000
X			**Contingencies**		**221,800**	**11%**	**0**	**0**	**221,800**
X	*01*		*Contingencies*		*221,800*	*11%*	*0*	*0*	*221,800*
X	01	01	Contingencies co-management	co-management	180,000		0	0	180,000
X	01	02	Contingencies BTC management	BTC management	41,800		0	0	41,800
Z			**General Means**		**484,400**	**24%**	**139,800**	**159,800**	**184,800**
Z	*01*		*Salaries*		*270,900*	*14%*	*90,300*	*90,300*	*90,300*
Z	01	01	BTC Project manager	BTC management	108,000		36,000	36,000	36,000
Z	01	02	Energy sector shared staff	co-management	51,300		17,100	17,100	17,100
Z	01	03	Support staff	co-management	111,600		37,200	37,200	37,200
Z	*02*		*Investments*		*10,000*	*1%*	*10,000*	*0*	*0*
Z	02	01	ICT and office equipment	BTC management	10,000		10,000	0	0
Z	*03*		*Running Costs*		*73,500*	*4%*	*24,500*	*24,500*	*24,500*
Z	03	01	Communication costs	co-management	10,800		3,600	3,600	3,600
Z	03	02	Office materials and other functioning costs	co-management	12,000		4,000	4,000	4,000
Z	03	03	Field Missions	co-management	6,000		2,000	2,000	2,000
Z	03	04	External Communication costs	co-management	7,500		2,500	2,500	2,500
Z	03	05	Training	co-management	36,000		12,000	12,000	12,000
Z	03	06	Financial costs	BTC management	600		200	200	200
Z	03	07	Financial costs	co-management	600		200	200	200
Z	03	08	VAT costs	BTC management	0		0	0	0
Z	03	09	VAT costs	co-management	0		0	0	0
Z	*04*		*Audit, Monitoring and Evaluation*		*130,000*	*7%*	*15,000*	*45,000*	*70,000*
Z	04	01	Baseline, monitoring and evaluation	BTC management	80,000		10,000	35,000	35,000
Z	04	02	Audits	BTC management	20,000		0	10,000	10,000
Z	04	03	Backstopping	BTC management	20,000		5,000	0	15,000
Z	04	04	Knowlegde management	BTC management	10,000		0	0	10,000
TOTAL					**2,000,000**		**624,800**	**603,600**	**771,600**

BTC management	**290,400**		**61,200**	**81,200**	**148,000**
co-management	**1,709,600**		**563,600**	**522,400**	**623,600**

4.2 Human resources

Human resources for the intervention include:

- Staff at BRD, which will overlap with the REF dedicated staff (the REF project manager, a technology officer and an investment officer. Staff sharing between the PSPE and REF projects will be organized by BRD to ensure synergies between the two projects. PSPE staff will be integrated in the REF PIU team as much as possible. It was agreed that BRD senior manager for the intervention will be the same person as the REF PIU project manager at BRD.
- BTC will provide an Intervention Manager. In addition BTC will provide on part-time basis (i) a Responsible for Administration and Finance (RAF) and (ii) a Procurement Expert. These last two positions are shared with other BTC interventions. The Intervention Manager will closely work with the Coordinator of the PIU which will manage REF at BRD.
- Support staff (intervention dedicated accountant, administrative assistant) will be recruited by BRD and paid 100% by the PSPE intervention.
- BRD support staff (ICT, logistics, procurement), taken in charge by BRD.

Table 2 : PSPE Human Resources

Position	Contribution to PSPE	Remarks	
BRD REF Project Manager (Energy Financing Department)(*)	10% x 36 months	Assigned and financed by BRD Direct counterpart of the BTC funded Intervention Manager for administrative and financial matters	**Management**
BTC Local Intervention Manager(*)	100% x 36 months	Funded by the Belgian contribution	
Renewable Energy Financing expert	100% x 36 months	Funded by the Belgian contribution Service contract. Recruited by BRD.	
BRD full time staff : technical specialist, economist	100% x 36 months	Assigned or recruited and financed by BRD own funds	**Technical and Support staff**
PSPE support staff : - accountant - administrative Assistant	100% x 36 months	Assigned or recruited by BRD and funded by the Belgian contribution (existing structure)	
BRD part time support staff: - ICT Officer - Logistic Officer - Procurement Officer	10% x 36 months	Assigned and financed by BRD own funds	
Responsible for Administration & Finance (RAF)(*) International Procurement Expert(*)	4 months/36 (8.3%) 4 months/36 (8.3%)	BTC national Staff funded by the Belgian contribution	**BTC Energy Program** **Shared Staff**

The ToR (job description and profile) of the BTC intervention manager are defined in **Annex 7.7**

(*) : member of the Intervention management unit (IMU) – see below.

4.3 Material resources

Funds are allocated for:

- Limited ICT investments to cover hardware, software and consumables.
- Office running costs and communications (excluding internet and electricity, which are financed by BRD)

Transport for the BTC-staff will be provided by BRD's corporate vehicles.

5 IMPLEMENTATION MODALITIES

5.1 Introduction

This chapter describes how the intervention will be managed, from start-up until closure, in all its management areas (strategic steering, technical content management (scope), procurement management, financial management, human resources management, quality management and audit) and is intended to enable stakeholders directly involved in the intervention to:

- Understand which **management system** applies to which intervention management area. There are two possibilities:
    - Use of the Rwandan system (in this case, referring to the BRD system where BRD is the implementing partner),
    - Use of the BTC system.
- Be aware of their **responsibilities** and of those of the other stakeholders in the various intervention management areas. There are two modes:
    - **Joint responsibility**: both the Rwandan partner and BTC are responsible. For the finance and procurement management areas, the term “co-management” is used.
    - **BTC responsibility**: BTC is responsible. For the finance and procurement management areas, the term “régie” or “BTC management” is used.

These possibilities in terms of system and responsibility mode can be related to the relevant modus operandi for the project support as introduced in the Rwanda Aid Policy Manual of Procedures:

- An “**embedded**” project is a project where there is a **joint responsibility**, regardless of the system used (from Rwanda or from BTC).
- A “**stand-alone**” project is a project run under **BTC responsibility**, usually using the BTC system.

The selected responsibility mode for this intervention is “**joint responsibility”** for all management areas. Some specific processes like technical backstopping, audits, MTR, ETR, knowledge management and communication services, general means etc. will remain under Belgian responsibility.

No matter the choices made in terms of systems and responsibility modes, partnership, collaboration, transparency and mutual information will apply in managing the intervention.

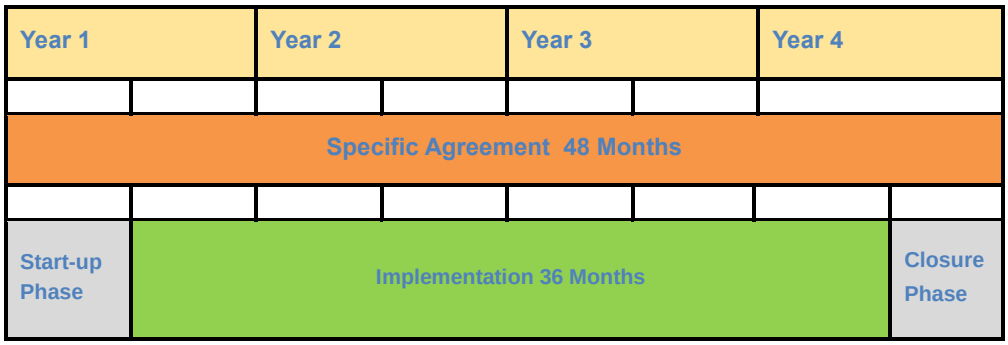
5.2 Intervention duration and life cycle

The duration of the Specific Agreement (SA) is 4 years (48 months) while the actual implementation phase of the intervention is 3 years (36 months). The steering committee decides on the start of the implementation phase. All intervention activities must be terminated at the end of the 36 months implementation period.

After the signature of the specific agreement, the intervention will enter its effective **start-up phase**, of about 6 months, during which additional intervention human resources will be hired, bank accounts will be opened and the first cash call will be made.

The implementation ends with a **closure phase** of 6 months to ensure proper technical and administrative closing and hand-over. The final report of the intervention is produced after the end of the implementation period.

Figure 6: Overall time schedule of the intervention



Consolidation activities are planned at various moments during the intervention life cycle and during the closure phase.

5.3 Intervention organization and anchorage

5.3.1 PSPE Steering Committee (PSPE SC)

5.3.1.1 Role

The PSPE SC is the highest level of decision in the intervention. It is in charge of the strategic steering of the intervention. The main responsibilities of the PSPE SC are:

- Putting in place and supervise the management structures of the intervention;
- Defining the intervention strategy and ensuring its alignment on the overall Rwandan strategy (strategic planning, annual planning and budgeting),
- Assessing the intervention's progress in attaining the development results (strategic quality assurance and control) and assuring sustainability
- Reviewing and approving the intervention plans and reports (annual results report; mid-term review and final evaluation reports). Managing strategic changes, intermediate results changes, changes on implementation modalities as well as the adaptation of the intervention organization and budget;
- Modifying the content of TFF when necessary (except the General and Specific objectives) and take any strategic decision required to ensure the success of the intervention.
- Solving problems that cannot be solved at the operational level,
- Enhancing harmonization among donors
- Ensuring the appropriate handover during the closure of the intervention and approving the final report.

The BTC representative will initiate the process of setting-up the steering committee and its operating rules.

5.3.1.2 Composition

The Steering Committee has the following composition:

- A representative of MININFRA (chair)
- A representative of BTC (co-chair)
- A representative of BRD
- A representative of MINECOFIN

Other stakeholders (REG, RDB) and Development Partners in Energy, Representatives of the Institutional mechanisms for the advancement of Women (Gender machinery[11]), Technical Experts and/or advisors can be invited by the Chair or co-chair of the Steering Committee to participate in meetings to provide any useful information.

The PSPE SC takes decision by its members through consensus.

5.3.1.3 The Secretariat of PSPE SC

The Secretariat of the Steering Committee is performed by the Intervention Manager with the support of the IMU team (see below). Its responsibilities include:

- delivering the written invitations to the meetings, the agenda and preparatory documents;
- drafting of the minutes of the meetings and any reports;
- preserving and maintaining the records and correspondence of the Steering Committee

5.3.1.4 Operating rules of the PSPE SC

The PSPE SC will meet at least twice a year by the invitation of the chair.

The steering committee can also hold a meeting any time when a decision is necessary regarding the intervention implementation.

Decisions are taken by consensus among present voting members. Decisions of each meeting of the PSPE SC are recorded in minutes signed by the chair and co-chair of the PSPE SC.

The full operating rules will be acted during the first PSPE SC meeting.

5.3.2 Intervention Management Unit (IMU)

5.3.2.1 Role

The IMU is the operational level in the intervention. It takes operational decisions and actions on a day to day basis in order that the intervention strategy is fully implemented, in time and within budget, as approved by the PSC. The main responsibilities of the IMU are to:

- Develop and implement the intervention strategy and operational plans
- Prepare quarterly and annual reports for the stakeholders,
- Coordinate and provide quality assurance and quality control in the processes of procuring the capacity building services and any other services, goods or works requested by the intervention (content management), as well as proper monitoring of the intervention.
- Ensure proper management and apply stringent accountability arrangements for the management of the financial resources allocated to the intervention,
- Ensure that procurement processes and procedures used by the intervention conform to the applicable procurement guidelines,
- Ensure proper human resources management practices conforming to the applicable guidelines,

The responsibilities of the IMU are further developed in the following paragraphs.

5.3.2.2 Composition

The IMU is composed by a management team and a technical and support team.

[11]Refer to Annex 7.4.2.7

The members of the IMU are (each with the title given by its organization):

1) Management team:

- The **BRD Senior manager**, Energy Financing Department, acting as authorizing officer for the BRD

A BTC appointed **Intervention manager** acting as an authorizing officer for the Belgian side for all technical, administrative, procurement and financial matters, as well as coordination and monitoring and evaluation.

2) Technical and support team:

- **Expert in Renewable Energy Financing,** technical methodological advice and coordination, support to and capacity building of BRD technical staff
- **BRD Technical Specialist,** implementation of intervention activities pertaining to BRD
- **Support team**: accountant and administrative assistant

5.3.2.3 Operating rules of the IMU

- The IMU meets at least once a month and at any other time deemed necessary. Meetings of the IMU are prepared, organized, follow-up, and chaired by the Intervention Manager, by default. Other clear arrangements can be decided by the Management Team, however.
- For matters executed in joint responsibility, decisions are taken by consensus between the IMU members.
- Decisions of each meeting of IMU are recorded in minutes.

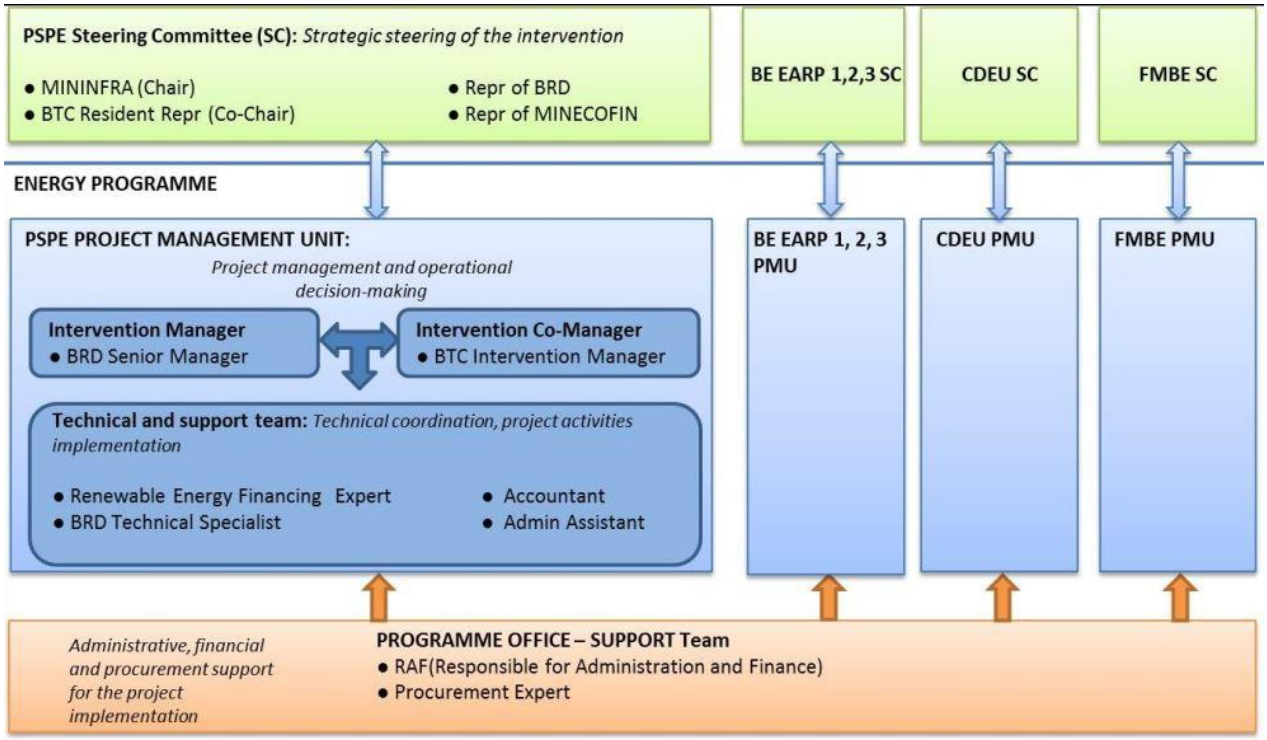
The PSPE intervention receives also a part-time support from a RAF (responsible for Administration and Finance) and from a Procurement Expert. These staff are included in the Programme Office and shared between the different interventions under the overall Energy Program (CDEU, BE EARP 1, 2, 3, FMBE, PSPE).

5.3.3 Organizational structure and institutional anchorage

The intervention integrates its management and support functions into BRD. The figure 9 provides an overview of the organisational structure and set up. The implementing partners, BRD, BTC are represented at IMU level.

Several interventions within the sector of energy are currently implemented (CDEU, BE EARP 1, 2, 3, FMBE) and have evolved towards an emerging “Energy program”. Given the focus on the same sector, the involvement from an operational perspective of similar partners, the similarity of the strategic and capacity building approaches used and need for technical assistance, a program approach brings an increased overall coherence, allows synergies between the interventions and ensures an increased efficiency through sharing of resources. This emerging program also enhances strategic dialogue. The organizational set up presented below takes into account the sharing of resources between the different ongoing interventions and present PSPE within an energy program.

Figure 7: PSPE Organizational set –up within the Energy Program



Synergies with the other components of the Belgian energy portfolio will be sought by the program office.

Synergies with the REF will be actively sought by the intervention (and by BRD) in management, technical scope, implementation, staff sharing, etc...

5.4 Technical content management

Technical content management (or scope management) encompasses the processes that transform the intervention strategy into activities that must be properly defined, planned, executed and monitored. It also includes the regular result-oriented reporting on intervention operations as well as possible backstopping by BTC HQ.

5.4.1 Operations definition, implementation and monitoring

System:	To be defined at the start of the intervention
Responsibility:	Joint responsibility

The definition and writing of the technical specifications (ToR) and the technical follow-up (including provisional and final technical acceptance) for all services, goods or works to be procured by the intervention and the definition, implementation and follow-up of the activities lead by the intervention team itself, are a joint responsibility of the IMU.

They are supported by the other members of the intervention team, by other BRD staff and by other institutions, depending on the activity.

5.4.2 Operations coordination

System:	To be defined at the start of the intervention
Responsibility:	Joint responsibility

The IMU meets formally at least once a month, in order to review intervention progress, identify issues and risks and proactively take actions.

5.4.3 Technical backstopping

System:	BTC system
Responsibility:	BTC responsibility or joint responsibility

Technical backstopping is the possibility for the intervention or the PSC to ask the support of experts at the level of BTC HQ.

Backstopping findings and recommendations are presented to the PSC.

5.5 Procurement management

Procurement processes shall be implemented according to the Rwandan Law on Public Procurement and the BRD Manual of Procedures respective of the activity. In addition, specific BTC requirements apply, as described in BTC intervention implementation Guidelines for Rwanda.

Where Rwandan system is mentioned, this refers to the BRD procurement procedures.

5.5.1 Procurement planning

System:	RWA system and BTC system
Responsibility:	Rwandan responsibility for the RWA system Joint responsibility for the BTC system

BTC requires a quarterly procurement plan for all intervention procurement processes.

Procurement planning is performed by the IMU. The IMU approves the quarterly procurement plan in joint responsibility.

5.5.2 Procurement implementation

System:	RWA system by default, BTC system for some clearly defined activities (see below)
Responsibility:	Joint responsibility when the RWA system is used BTC responsibility when the BTC system is used

Where this TFF provides that a public contract will be awarded under co-management, i.e. according to the regulations of the partner country, it is not BTC who will be the contracting authority but the partner institution. In this case, BTC must issue notices of non-objection for the Tender Specifications/Calls for tenders, the award decisions and/or agreements, provisional acceptance(s) and final acceptance as well as any amendments that will be submitted to it by the partner institution (who will, under co-management, be the contracting authority for the contract concerned).

Table: The authorizing power, depending on thresholds, for launching, awarding and contract signing, is distributed as indicated here under.

RWA	BTC	Threshold (X Equivalent EUR):
BRD CEO	Intervention Manager	X ≤ 25,000
BRD CEO	Resident Representative	25,000 < X ≤ 200,000
BRD CEO	Resident representative, after review by BTC HQ (for awarding)	X > 200,000

X is the amount of the tender, VAT included, in EUR or converted from FRW in EUR on the day of publication, using the EUR buying rate of exchange on the National Bank of Rwanda website.

Use of the BTC procurement system:

The tendering processes that will use the BTC procurement system under BTC responsibility are:

- Consulting services for supporting BTC backstopping, if required
- Audit services for intervention audit on behalf of BTC
- Consulting services for the mid-term review
- Consulting services for the end-term review
- Capitalization services (BTC framework contract)
- Other procurements as described in the budget (“BTC management”).

5.5.3 Management of Grant Agreements

No grant agreement is foreseen in this intervention.

5.5.4 Management of Cooperation Agreements

The "public-public” cooperation agreements with a public partner may be materialized for BTC through “Framework Cooperation Agreements” (FCA), operationalized through “Specific Cooperation Agreements” (SCA).

This type of agreement will be used in case the intervention aims to encourage synergies with expertise coming from other Governmental public institutions, mainly Belgian ones, even if cooperation with a non-Belgian contracting authority is also possible.

In such agreements, the public interest and the concept of 'non-profit' are key. The contracting authorities shall cooperate to jointly ensure the execution of public service missions.

Specific Cooperation Agreements will be signed following the modalities described in BTC's Framework/Specific Cooperation Agreement Guide.

5.5.4.1 Identified FCA/SCA in the TFF

No specific FCA or SCA has been identified during the formulation phase.

The opportunity of signing a Specific Cooperation Agreement (SCA) will have to be confirmed by the IMU at the time of implementation, following an in-depth analysis (according to the BTC Framework Cooperation/Specific Cooperation Agreement Guide).

5.5.4.2 Non identified FCA/SCA in the TFF

A FCA / SCA can be identified during the implementation. It must not necessarily be identified during formulation. In this case, the Intervention Management Unit (IMU) must obtain the agreement of the Steering Committee and follow the procedure and modalities as described in the FCA / SCA BTC guide to initiate the process.

Two situations can arise:

- Either a FCA with the desired partner already exists: the team can directly initiate the procedure for the establishment of a SCA for the desired activity,
- Either no MFA has yet been signed between BTC and the public institution with which it wants to develop a synergy. In this case, the IMU initiates for BTC to consider concluding a corresponding Framework Cooperation Agreement.

5.5.4.3 SCA management

The general rule for a SCA management is the respect of the procedures for commitment and monitoring of expenditure at BTC.

Like any expense, SCA related expenses must be planned in the planning tools. The FCA / SCA will be signed in BTC-management, that is to say that only the BTC is able to sign the SCA as contracting authority and using the Belgian system.

The monitoring and control of payments are made in accordance with the BTC procedures.

5.6 Finance management

All finance management processes must use at least the BTC system, as described in the global and Rwandan BTC guidelines on intervention implementation (administration and finance), most of them in joint responsibility.

Where Rwandan system is mentioned, this refers to the BRD procedures.

5.6.1 Budget management

5.6.1.1 Budget planning

System:	BTC system and RWA system
Responsibility:	Joint responsibility for the BTC system Rwandan responsibility for the RWA system

The budget as indicated in § 4.1.2 sets out the budgetary limits within which the intervention must be executed. It also indicates expected disbursements per (BTC financial) year.

Budget planning processes have to be implemented in both the BTC system and the Rwandan system; in order for Rwanda to be able to track intervention progress in its own financial system and this must be executed under its own responsibility.

5.6.1.2 Budget follow-up and review

System:	BTC system and RWA system
Responsibility:	Joint responsibility for the BTC system Rwandan responsibility for the RWA system

The intervention expenses cannot exceed the total budget of the intervention and the budget per responsibility mode may not be exceeded.

Any change to the budget must be approved by the PSC on the basis of a proposal that is drawn up by the IMU, according to the BTC rules in this respect.

The use of the budgetary reserve requires a budget change proposal to be validated by the PSC.

Quarterly reports on budget implementation are produced by the IMU accountant supervised by the RAF, as part of the financial reporting.

5.6.2 Accounting, financial planning and reporting

5.6.2.1 Accounting

System:	BTC system
Responsibility:	Joint responsibility

Accounting is done on a monthly basis according to BTC rules and regulations and its own financial system.

Accounting tasks are performed by the IMU accountant. The BTC Co-Manager should approve the monthly accounting. After approval the monthly accounting must be transmitted to the BTC representation every month. The RAF will execute periodical control.

5.6.2.2 Financial planning

System:	BTC system
Responsibility:	Joint responsibility

The IMU elaborates quarterly a financial plan, according to BTC rules and regulations and its own financial system, to inform the PSC. Financial planning is based on the quarterly action and procurement plans.

Financial planning tasks are performed by the intervention accountant supported by the RAF, based on the operations planning. The BRD representatives in the IMU and the BTC Intervention Manager both approve the quarterly financial plan in joint responsibility. This plan must be forwarded to the BTC representation.

5.6.2.3 Financial reporting

System:	BTC system and RWA system
Responsibility:	Joint responsibility for the BTC system Rwandan responsibility for the Rwandan system

Financial reporting processes have to be implemented using the BTC system and could additionally be adapted to the Rwandan system, in order for Rwanda to be able to track intervention progress in its own financial reporting system.

5.6.3 Cash management

5.6.3.1 Managing intervention accounts and payments

System:	BTC system
Responsibility:	Joint responsibility or BTC responsibility

Supporting documents for all payments must be kept in the intervention office.

Accounts in joint responsibility:

As soon as the specific agreement has been signed, an account in EUR (main account) and one operational account in Rwandan Franc will be opened at the National Bank of Rwanda (NBR). Payments from these accounts require a double authorization (BTC and RWA), according to the following specifications:

Authorizing officer for RWA:	Authorizing officer for BTC:	Threshold (EUR):	Type of account
BRD CEO	Intervention Manager	< 25,000	Operational
BRD CEO	RAF Resident Representative *following BTC mandates*	> 25,000[12]	Main

For logistical reasons, other accounts in joint responsibility may be opened with the approval of the "BRD CEO" and the resident representative.

Account in BTC responsibility:
For local expenses under BTC responsibility, an intervention account in EUR and RWF will be opened at a local bank, with double BTC authorization.

5.6.3.2 Managing cash and transfers

System:	BTC system
Responsibility:	Joint responsibility or BTC responsibility

First transfer on the main account:

Once the signed specific agreement has been notified to BTC, a first cash call can be sent by the IMU to the BTC representation, per responsibility mode. The requested amount must correspond to the needs for the first three months of implementation.

Following transfers on the main account:

The main account is replenished quarterly according to BTC rules and regulations and its own financial system. The intervention must submit a cash call per responsibility mode to the BTC representation at the beginning of the month preceding the following quarter.

Cash management tasks are performed by the intervention accountant. The BRD senior manager and intervention manager both sign the quarterly cash calls in joint responsibility. The first cash call can be signed by the BTC Resident Representative if the Intervention Manager has not been appointed yet.

5.6.4 Assets and inventory management

System:	BTC system for IMU's assets Rwandan system for assets officially transferred
Responsibility:	BTC responsibility for IMU's assets Rwandan responsibility for assets officially transferred

Assets acquired by the IMU for its own use must be registered in an inventory updated on a quarterly basis according to BTC rules and regulations and its own administrative system. Their use is strictly

[12] According to BTC systems

limited to the activities of the intervention. At the end of the intervention, IMU's assets can be transferred to a partner institution after decision by the PSC. It must be formalized by an official transfer statement signed by all parties.

According to the intervention's objectives, the IMU can acquire infrastructure, equipment and goods to support a partner organization. The official transfer of property has to be validated by the PSC and formalized by an official transfer statement signed by all parties.

Transfer of equipment, infrastructure and goods to a partner institution has to follow rules and procedures from Rwanda in terms of inventory management.

5.6.5 Expenses before the signature of the implementation agreement (DGD-BTC)

The following expenses can be incurred by BTC before the signature of the implementation agreement, in order to speed up the start of the intervention:

- Investment costs: IT equipment
- Costs for the recruitment of the international and national funded staff. Staff recruitment expenses can be made as soon as the intervention TFF has been approved by the Joint BTC-DGD Quality Control Committee (QCC) in order to allow quick start of the intervention.

Table 3 : Expenses before the signature of the implementation agreement

Activity	**Amount in Euros**	- Period and Comments
Recruitment	10,000	National & International staff
Capital Investments	10,000	ICT equipment
Total	**20,000**	-

5.6.6 Financial closure

5.6.6.1 Financial balance

From six months before the end of the intervention implementation phase, the IMU must elaborate each month a financial balance forecast according to BTC procedures.

5.6.6.2 Destination of balances at the end of intervention operations

According to the modalities of the Specific Agreement, the balances go back to the Belgian Treasury.

5.6.6.3 Expenses beyond the end date of the specific agreement

No commitment can be made in the last six months of validity of the Specific Agreement without prior approval of the PSC and on exclusive condition that activities close before the end of the Specific Agreement. After the end date of the Specific Agreement, no expenditure will be authorized except if it is related to commitments signed before the end of the Specific Agreement and mentioned in the minutes of a PSC. Operational expenditures after the end of the Specific Agreement will not be accepted.

5.7 Human resources management

See chapter 4.2 for what positions will be financed by the intervention.

Intervention support staff fully supported by the intervention (100%)*	**Intervention staff supported by BRD**	**BTC Staff**	
		BTC full time Staff (100% on intervention)	**BTC shared staff, Part-time on intervention**
Renewable Energy international expert Accountant Administrative Assistant	BRD REF Project Manager Investment officer Technical staff Support staff BRD	Intervention Manager	RAF Procurement Expert

* : Note that the renewable energy financing expert will be recruited through a service contract and will not be part of the human resources management, but rather be part of contract management.

For the human resource management, the following modalities apply:

System:	BTC system for BTC employees RWA system for all others
Responsibility:	Rwandan responsibility for IMU employees and BTC responsibility for BTC employees, with some aspects of joint responsibility as detailed below.

Where Rwandan system is mentioned, this refers to the BRD procedures.

The following table shows the primary responsibility mode per HR management process, by category:

Table 4 : HR process management

Positions **HR processes**	IMU technical and support staff	BTC Staff	BRD other Staff
ToR (job description and profile)	Joint	BTC	BRD
Short listing	Joint	Joint	BRD
Assessment	Joint	Joint	BRD
Contracting	BRD	BTC	BRD
Probation and performance appraisal	Joint	BTC	BRD
Training	Joint	BTC	BRD
Missions/Leave	BRD	BTC	BRD
Payroll	BRD	BTC	BRD
Salary scale and staff regulations	BRD	BTC	BRD
Early termination of contract	BRD	BTC	BRD

Additional remarks:

All positions are open for men and women. Female candidates will be encouraged to apply.

The IMU staff involved in the intervention will be trained by BTC as they will use many aspects of the BTC management system, in addition to their duties in the Rwandan management system.

Intervention objectives will be included in the performance contracts of the BRD, intervention manager.

5.8 Quality management (monitoring and review)

Monitoring and Evaluation (M&E) is to support accountability requirements, continuous learning and strategic steering.

Monitoring and Evaluation (M&E) contributes to achieving better results while strengthening accountability, continuous learning and strategic steering.

5.8.1 Monitoring

The different processes are briefly explained below. For every Monitoring process, the IMU is responsible for the delivery and quality of monitoring.

The table below summarizes responsibilities, systems to be used, frequency and users by type of monitoring activities planned under PSPE.

	Report Title	Responsibility	System	Frequency	Users
Comprehensive Baseline	Baseline Report	Joint responsibility	BTC	Unique, during the first 6 months of implementation period	Intervention, PSC, BTC
Operational Monitoring	MONOP	Joint responsibility	BTC	Quarterly	Intervention, BTC Rep office
Results Monitoring	Results report	Joint responsibility	BTC	Annually	Intervention, team, partner, PSC, BTC rep office, BE embassy
Final Monitoring	Final Report	Joint responsibility	BTC	Unique	PSC, BRD, BTC rep office BE embassy, donor

5.8.1.1 Comprehensive Baseline

Establishing a comprehensive baseline exercise in the beginning of the intervention is a BTC system requirement.

The Comprehensive Baseline exercise needs to take place at the beginning of the intervention (ideally within 6 months after the first intervention steering committee (start-up PSC) and with the involvement of the renewable energy finance expert).

The report of the Comprehensive Baseline exercise will be approved in joint responsibility by IMU members. The Comprehensive Baseline Report will be presented to the Intervention Steering Committee (PSC). The PSC takes note of the Comprehensive Baseline Report and validates the way the intervention will be monitored.

5.8.1.2 Operational monitoring (including planning)

Operational monitoring refers to both planning and follow-up of the intervention's management information (inputs, activities, outputs). It is an internal management process of the intervention team and is done every 3 months.

5.8.1.3 Results Monitoring

Results Monitoring refers to an annual participatory reflection process in which intervention team reflects about the achievements, challenges, etc. of the past year, and looks for ways forward in the year(s) to come. The PSC approves or disapproves recommendations made by the intervention team (see chapter 3) .

5.8.1.4 Final Monitoring

The purpose of final monitoring is to ensure that the key-elements on the intervention's performance and on the development process are transferred to the partner organization, the donor and BTC and captured in their "institutional memory". This enables the closure of the intervention (legal obligation for back-donor of BTC), the hand-over to the partner organization and the capitalization of lessons learned. It can be considered as a summary of what different stakeholders might want to know at closure or some years after closure of the intervention.

5.8.2 Evaluation: Mid-Term Review and End-Term Review[13]

System:	BTC system
Responsibility:	BTC responsibility

Reviews are organized twice in a lifetime of an intervention: at mid and end of term. BTC-HQ is responsible for organizing the reviews. The ToR of the reviews and their implementation are managed by BTC Brussels, with strong involvement of all stakeholders (see chapter 3). The role of the PSC is to approve or disapprove the recommendations made in the reviews.

5.8.3 Knowledge management and communication

System:	Not defined, as these processes are not really formalized
Responsibility:	Joint responsibility

Efforts will be made between partners to ensure visibility of the intervention results and activities and of the contribution of BTC to them. Interested lessons learned will be capitalized in the most efficient manner, according to best practices and corporate guidelines from BRD or BTC.

A specific budget of € 10,000 is allocated to this aspect.

5.9 Audits

5.9.1 Intervention audits by BTC

System:	BTC system
Responsibility:	BTC responsibility

At least one audit will be organized by BTC during intervention implementation. A qualified external financial auditor selected and contracted by BTC, will execute the audit. BTC will elaborate the Terms of Reference and select the audit firm. The audit will include the following items:

- verification of the existence and the respect of procedures;
- verification if the accounts of the intervention reflect reality

[13] In BTC terminology, the term 'review' is used for evaluations at project level.

The auditor's reports will be presented to the PSC. If necessary, the intervention team will elaborate an action plan in order to improve the intervention procedures and to prove that corrective measures have been taken.

Terms of Reference of BTC audits are a BTC responsibility and will be shared with the other IMU members for information.

5.9.2 Intervention Audits by External Control Bodies

System:	BTC system or RWA system
Responsibility:	BTC responsibility or RWA responsibility or Joint responsibility

Each year, BTC accounts are audited by the Belgian Government auditors, who have the right to audit any intervention implemented by BTC. BTC internal audit chief officer is also free to decide to audit any intervention implemented by BTC.

The Rwandan authorities can also decide to audit the intervention. In this instance, the BRD intervention manager is the primary respondent to the auditor's requests.

Intervention audits reports are mutually shared and presented to the PSC.

In case the intervention is audited by the Auditor General Office of Rwanda or the BRD external auditors, it will be clear at the beginning of the audit which systems are to be used. It should be avoided to audit the intervention compliance to the Rwandan system where the TFF clearly states that the BTC system must be used.

Moreover the scope of control will focus on the co-management budget whereas the BTC management budget will remain under full responsibility of BTC and therefore governed by the jurisdiction of its external control bodies (Belgian Government auditors). If necessary, information on amounts spent in "BTC management" can be provided.

5.10 Modification of the TFF

The present TFF may be amended by mutual consent of the parties.

It is essential to install an attitude of expecting and encouraging a practice of regular modifications based on the insights gained during the implementation. The task of the IMU unit and the PSC is to assess the quality of the argumentation for the suggested changes and to request further explanation if necessary.

Careful consideration must be given not to change the present TFF in a way that would unnecessarily change the outcome of the intervention as originally agreed between the parties. A formal agreement by the Belgian Government is needed for the following changes:

- Modification of the duration of the Specific Agreement;
- Modification of the total Belgian financial contribution;
- Modification of the General and Specific Objective of the intervention.

The request of the above modifications has to be approved and motivated by the Steering Committee. The exchange of letters requesting these modifications shall be initiated by the Rwandese party and shall be addressed to the Belgian Embassy. The following changes to the TFF will have to be approved by the Steering Committee:

- The intervention results and activities and their respective budgets
- The implementation modalities
- Competences, attributions, composition and tasks of the SC

- The indicators at the level of the specific objective and the results
- The mechanism to change the TFF
- The financial modalities to implement the contribution of the Parties.

All other changes to the TFF should be approved by the chairman of the PSC and the BTC resident representative. The adapted version of the TFF shall be communicated to the BTC headquarters and to the Attaché for International Cooperation (DGD) in Kigali.

6 CROSS CUTTING THEMES

6.1 Environment

As all activities deal with renewable energy, in principle the environmental impact should be positive. Nevertheless, the construction of mini-grids could lead to some limited local environmental degradation, and local relocation of some buildings to accommodate the distribution network could lead to some social impact. An environmental and social management plan (ESMP) and full compliance with the local legislation will therefore be a condition for financing (by BRD), and the tools and methodologies developed for and with BRD will include environmental compliance checks.

6.1.1 Energy Sector level

A Strategic Environmental Assessment (SEA) has been carried out in 2014, which assessed the environmental impacts of the Energy Sector Strategic Plan (ESSP). This identifies impacts in areas such as greenhouse gas emissions, watersheds and wetland ecosystems, forests and protected areas, and biodiversity. Human activities are assessed in agriculture and farming systems, land management practices, exploitation of energy resources, as well as taking account of trends in urbanization, demography and water and sanitation usage.

The report proposes a number of actions to minimize these impacts which have been incorporated into the SE4All Action Agenda and MININFRA is currently assessing to what extent they can be gradually integrated in the strategy and policy framework of the energy sector.

6.1.2 PSPE Intervention level

The intervention will not have direct impact on the environment as it only supports technical assistance and does not finance tangible electrification activities. However, indirectly it could have impact on the environment as BRD will finance electrification activities:

- Environmental negative impact, in noise and air pollution, associated with existing generator usage will be reduced.
- Compared to the original situation – people are using kerosene, candles, or dry-cell batteries to meet their energy demands, households throw used batteries into their pit latrines, into their garbage or directly into nature – electrification is decreasing environmental costs since majority of electricity in Rwanda is produced by renewable sources.
- Adverse impacts on the environment are not expected. The intervention will not pose major or important risks to biodiversity, natural habitats, and wetlands as it will not fund activities in protected areas, national parks, or wetlands.

The local and global climate will benefit from the shift from carbon-based to low carbon technologies. The amount of avoided CO_2 emissions by the projects benefitting from support by PSPE is an environmental indicator of the intervention.

Good environmental practice on the use of air-conditioning and lighting at BRD level will be stimulated.

6.2 Gender

6.2.1 National and international context

Short note on the international and national scene about commitments towards Gender equality:

- Many international commitments support women's economic empowerment, including the Beijing Platform for Action, the 1979 Convention on the Elimination of All Forms of Discrimination against Women[14][15] and a series of International Labour Organization (ILO) conventions on gender equality[16].
- Regional instruments stress the necessity to enable women to contribute to economic growth to the same extent as men. African states ratified and brought into force the Protocol to the African Charter on Human and Peoples Rights on the Rights of Women also known as the Maputo Protocol. Article 13(e) states that state parties shall "Create conditions to promote and support the occupations and economic activities of women especially informal sector." Those conditions include improving the ability of women to develop formal businesses.
- The National Gender Policy of Rwanda states that there is a need to ensure that women and men are involved in the development of renewable sources of energy.[17]
- Investing in women's economic empowerment sets a direct path towards gender equality, poverty eradication and inclusive economic growth.[18]
- Women make enormous contributions to economies, whether in businesses, on farms, as entrepreneurs or employees, or by doing unpaid care work at home. But they also remain disproportionately affected by poverty, discrimination and exploitation.[19]
- It is essential to create a climate that is favorable to increasing the number of women entrepreneurs and the size of existing women-led businesses.

6.2.2 Energy sector specific

Why is it important to develop women's entrepreneurship and eliminate gender-based discrimination in the Energy sector?

- Women entrepreneurs face gender-based barriers to starting and growing their businesses including discriminatory property, matrimonial and inheritance laws and/or cultural practices, limited mobility, voice and representation, and an unequal share of family and household responsibilities.
- Women entrepreneurs are in a less favorable position compared to men when it comes to accessing commercial credit from formal financial service providers. Access to finance remains an important challenge limiting women's enterprises. Banks are not keen to lend to women because they lack collateral, credit history, bank accounts, etc.[20]
- Women entrepreneurs operating micro and small businesses in the informal economy make a strong contribution to the economic well-being of the family and communities. As they remain outside the scope of SME development policies and programs, their chances of developing

[14] Article 13. *States Parties shall take all appropriate measures to eliminate discrimination against women in other areas of economic and social life in order to ensure, on a basis of equality of men and women, the same rights, in particular: (…) (b) The right to bank loans, mortgages and other forms of financial credit* (…)
[15] Rwanda is part of the CEDAW since March 1981.
[16] The four key ILO gender equality Conventions are the Equal Remuneration Convention (No. 100), Discrimination (Employment and Occupation) Convention (No. 111), Workers with Family Responsibilities Convention (No. 156) and Maternity Protection Convention (No. 183). Conventions 100 and 111 are also among the eight fundamental Conventions and the principles and rights enshrined in those Conventions are found in the ILO Declaration on Fundamental Principles and Rights at Work.
[17] Ministry of Gender and Family Promotion, National Gender Policy, July 2010, p.27
[18] UN women, Thematic Brief Economic Empowerment of Women, available on unwomen.org
[19] *Ibid.*
[20] European Commission, Women and Sustainable Energy, Stakeholder consultation, Brussels, December 2016

lucrative businesses remain slim.

- Regulations and government services can fail to address the needs of women-led businesses, discouraging the move from the informal to the formal system and limiting employment creation and productivity.[21]
- To make business environments more efficient and responsive to both women- and men-led businesses, it is essential to increase women's ability to operate a business.

6.2.3 PSPE

In the above context, PSPE is an intervention that can contribute to an enabling environment for Women's empowerment and entrepreneurship, focusing on two strategies:

- Enabling the 'mindset shift', by for example contributing to :
    - Awareness raising at authority and organizational level because with all actors are concerned;
    - Access to information on investment opportunities by reaching more women
    - Address lack of info/skills (technological & financial) to design gender sensitive capacity building & training, adapted to the educational level of beneficiaries
- Improve accessibility of Women's entrepreneurs to finance, by for example designing tools to assess bankable proposals taking gender needs into account and by encouraging positive discrimination in allocating specific shares (%) that would finance projects developed by for Women's entrepreneurs

Therefore, the key following principles will be respected by the team and by implementing actors during the whole implementation of the intervention:

- Assess the strategy at the start of the intervention and validate an action plan;
- Allocate specific resources to gender supporting, sensitive or transformative activities;
- Produce, collect and monitor sex-desegregated data;
- Closely collaborate with the existing institutional mechanisms22for the advancement of Women in Rwanda, to share knowledge on challenges on Gender in the sector, assess strategies and develop mechanisms of accountability;
- A Gender Audit will be conducted by BRD together with GMO within the first year of the intervention, to support the process of assessing the baseline and elaborating realistic action plans;
- Raise awareness within business networks and with policy makers on the importance of developing gender-based strategies in the sector; Share knowledge on the effects of Gender strategies on intervention's achievements, with the partners and BTC office in Rwanda;

Next to female entrepreneurship, PSPE will pay attention to gender-energy issues at the end-user level, e.g. by screening business plans and proposals BRD on gender compliancy. Gender criteria will be added to the checklist for proposal assessment.

[21] Women's Economic Empowerment: Guidance Note, Government of Canada, available on http://www.international.gc.ca

[22] Institutional framework is constituted by: Ministry of Gender and Family Promotion, National Women Council, Gender Monitoring office, Forum for Women Parliamentarians

6.2.4 Gender at the partner institution BRD

BRD can greatly contribute to raising awareness among its members on importance to address needs of male and female specifically. BRD can emphasize on good practices and continue efforts for developing gender-sensitive environment

BRD will address Gender gaps whenever possible, and among others commits to:

- Collaborate with GMO to conduct a Gender audit and to elaborate an action plan, within the first year of the intervention.
- Support the integration of gender in the tools for planning, budgeting (GRB) implementation and M&E to ensure sustainability of energy projects.
- Support institutions mandated with coordination of gender related interventions in establishing coordination mechanisms for more effective implementation of National Gender Policy
- Integrate a criteria on Gender in the analysis of bankability of projects which results in positive discrimination for gender sensitive and transformative projects
- Influence WB to include similar gender criteria in the analysis of bankability of projects and allocation of a share of funds to female entrepreneurship.

In addition, BRD will also ensure information is channeled to Women's entrepreneur's audience. Overall, PSPE will allocate 5 % of this total budget to Gender supportive, sensitive and transformative activities.

6.3 Children's rights

The intervention itself will not contribute to children's rights directly. Indirectly, the general impact of access to (electric) energy on development and more specifically on children's rights is widely known. Impacts are:

- improved education opportunities (computer literacy, lighting, educational tools (videos, software, …), better teaching administration)
- improved health: vaccine cold chain, lighting of health centers, …
- access to media (radio, television)
- general country development, creating jobs and welfare

6.4 HIV / AIDS

The Ministry of Health broadcasts all her health related programs on radios and Television alongside other social media like twitter, face book and YouTube. All these facilities require constant power supply without which communication will be delayed and or derailed. HIV awareness campaigns to be broadcast over the same media will help reduce on infection and transmission rates as well and treatment provided by health centers. The Energy Sector Strategic Plan targets to electrify 100% of health administration centers to promote health services provision and facilitate campaigns to combat killer diseases such as Malaria and HIV/AIDs.

6.5 Digitalization

There is an amazing opportunity to enhance the ambitions of the Sustainable Development Goals (#SDGs) through digitalization. Both Belgium and Rwanda recognize this and promote partnerships across civil society, public and private sector to bring about new opportunities as a result of digitalization. The PSPE is cognizant of this, and will support as much as possible the transformation to adopt digital tools to operate businesses and organizations.

Energy is known as a big enabler for digital technology: electricity allows charging phones, power laptops, power communication towers etc. PSPE, by promoting the production and distribution of electricity, will contribute to the digitalization in the country.

Any aspect identified during the intervention where digitalization has an added value (in terms of efficiency, speed, transparency, ease of use, lower cost, …) will be further analyzed and implemented where possible. Main aspects pre-identified:

- The bankability analysis tools will be digital tools
- Surveys among members or stakeholders will be done by mobile data collection or through a digital platform, in order to speed up the surveys and improve their reliability

7 ANNEXES

7.1 Electricity Generation Projects in the pipeline

Table 3 shows the list of electricity generation projects that are being planned.

Table 5 : List of on-grid electricity generation projects in the pipeline

	Project Name	Estimated capacity (MW)	Developer	Expected timing
Micro/mini-hydropower projects;				
1	Gakenke Base I	2.9	Ngali Energy ltd	Projects listed here concluded by June 2016 their respective concession agreements with GoR and are now developing their plants
2	Gakenke Base II	2.9	Ngali Energy ltd	
3	Ngororero	2.7	Ngali Energy ltd	
4	Rwondo	2.31	Ngali Energy ltd	
5	Muhembe	0.325	LED Solutions and Green energy Rwanda ltd	
6	Nyirahindwe I	0.909	Mecamidi & DC Hydropower ltd	
7	Nyirahindwe II	0.359	Mecamidi & DC Hydropower ltd	
8	Nyirantaruko	1.263	Kochendoefer FEE & LYV ltd	
9	Rubagabaga	0.28	Rubagabaga ltd	
10	Rukarara VI	6.7	Prime Energy ltd	
11	Rwaza-Muko	2.6	DC Hydropower ltd	
Large Hydropower project				
12	Rusumo	80	NELSAP (regional project)	2019
Peat to Power				
13	Hakan Peat	80	Hakan Mining and Generation Industry and Trade Inc.	2017/2020
Methane Power Plant				
14	Symbion	50	Symbion Power Lake Kivu Ltd	

7.2 Banking institutions reviewed for REF Management

The three banking institutions that were reviewed as candidate to manage the SREP REF funds were BRD, BDF, and FONERWA. BRD has been selected, and its features have been described in Chapter 1 (Section 1.5).

7.2.1 BDF

Established in 2009, BDF acts as the Government´s banking guarantee instrument. It is the sole established local guarantee institution designed to compel financial inclusion and access to financial services for individuals, associations, cooperatives and companies. Despite the fact that BDF guarantee services could highly benefit to most of the private investors in the energy sector, there is no record of energy related projects that benefited from such services.

7.2.2 FONERWA

Established in 2012, the fund for environment and climate change, finances activities aimed at promoting green growth, environmental protection and climate resilience in Rwanda. The fund will allocate a minimum of 20% of its resources for the private sector.

The fund thematic windows are the following:

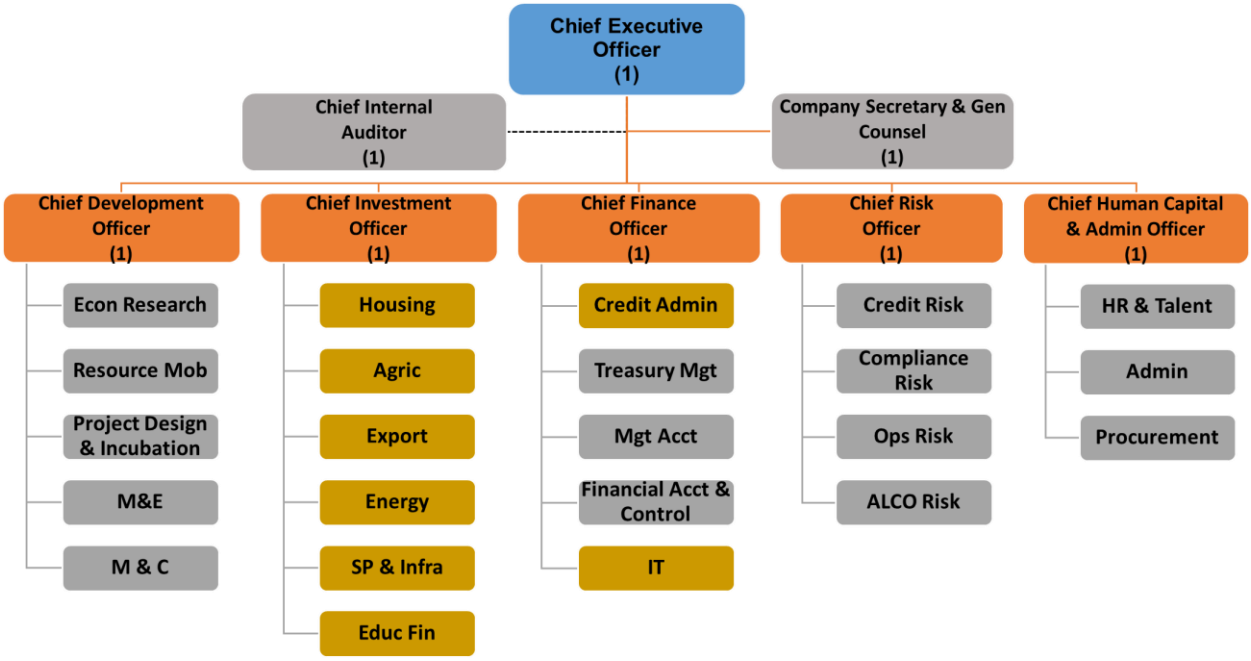
- Conservation and sustainable management of natural resources
- R&D and technology transfer and implementation
- Environment and climate change mainstreaming
- Environmental Impact Assessment and enforcement

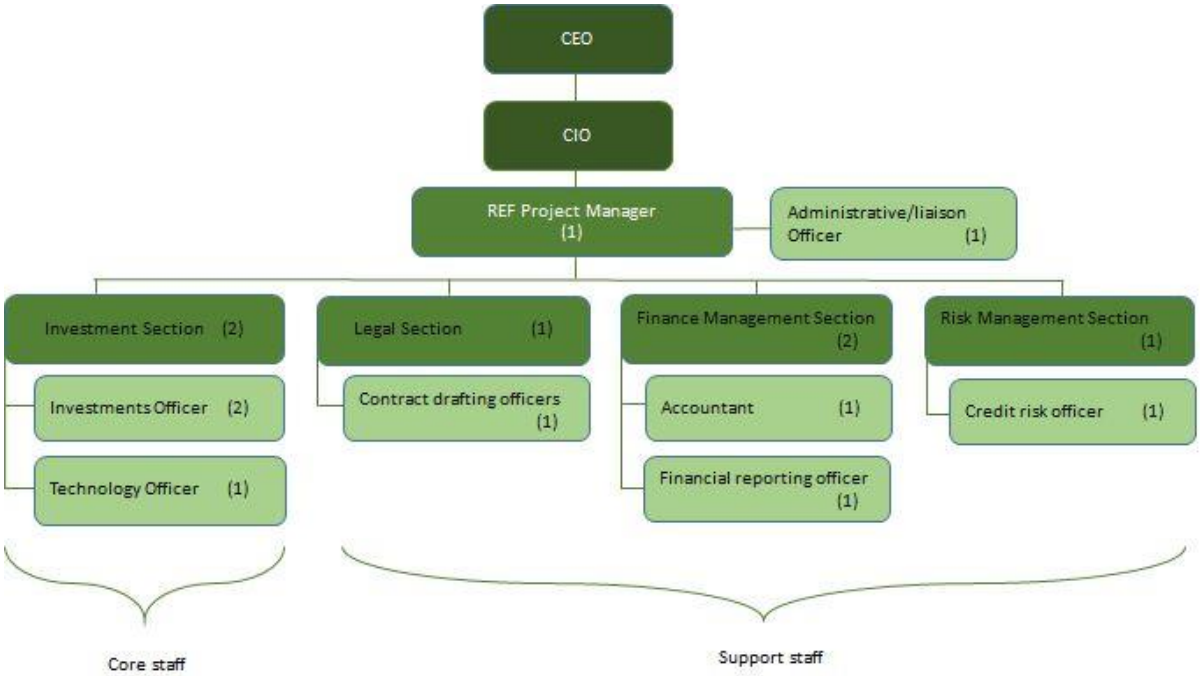
Funds that are allocated to private sector are provided through two different products: the innovation grant window and the line of credit. Under innovation grant, projects in the areas of research and development, proof-of-concept and demonstration are targeted. Under the line of credit product, which is implemented by BRD, projects that are supported have to meet a number of requirements, including featuring within one of FONERWA thematic windows.

FONERWA selection process is done through formalized process of public Calls for Proposals (CFPs) presently scheduled every 6 month, where applicants are given one month to submit their respective project proposals or concepts.

7.3 BRD organizational chart

Figure 8: BRD Organizational chart and REF PIU Structure





7.4 Past, ongoing, and upcoming Energy Sector interventions

7.4.1 Development Partners (focus on energy production/private sector)

Many development partners are involved in different activities of electricity generation and access. The Kingdom of Belgium and the EU, through the BTC, have in the past supported the construction of several MHP projects and electrification projects across the country. EnDev Rwanda program is known to have spearheaded the private sector participation in MHP development in Rwanda. The WB is initiating the setup of the SREP Investment Plan for Rwanda, planned to be roll-out in 2017. Since the WB has been the lead donor in the past, most donors have aligned with its strategy. WB, OFID, BADEA, NL, Saudi Fund, JICA and AFD have contributed to the first phase of EARP. The second phase is involving WB, OFID, BADEA, Saudi Fund, NL, AfDB, Belgium, AFD and EU.

The energy SWAp has been created in order to reduce the fragmentation of donor aid flows and to create synergy between all involved parties. BTC is actively involved in managing the eSWAP. The CD EU intervention of the current Belgian-Rwandan ICP is working on the three levels of capacity building (individual & equipment, organizational, and institutional). Methodological and practical coherences are being developed with the EARP CB component. Regular joint meetings between BTC interventions within REG are held to foster dialogue and synergies. The PSPE should be part and parcel of the ongoing institutional level CB so that private organizations can contribute to the EARP with maximum efficiency

Many initiatives aiming at involving the private sector in the electricity generation have so far been initiated in Rwanda, mostly for hydropower and more recently for a larger variety of energy sources.

BTC/CTB: In 2008, MININFRA, supported by BTC, conducted a countrywide MHP atlas; the atlas was the very first compilation to provide a picture of Rwanda's hydroelectric resource potential. It listed more than 300 potential SHP sites through the entire country and confirmed Rwanda's considerable SHP potential, which is one of the most significant in East Africa.

In 2011, BTC implemented several programs that aimed at increasing generation from renewable sources. EPRER program -Access to Electricity for Rural Population through Renewable Energy, funded the construction of MHPs, the provision of solar power to isolated health facilities and supported the increase of access to electricity through the construction of transmission and distribution lines in the project areas. The IREARPPP program - Increase Rural Energy Access in Rwanda through Public Private Partnerships, supported the constructions of micro hydro power plants and photovoltaic installations. The construction of most of these projects was undertaken by local companies, and on course, a lot of capacity was acquired locally. Three MHPs plants were commissioned, with installed capacity totaling around 3.2MW. Through the construction, which was undertaken by local contracting companies, a lot of design and engineering was carried out locally. BTC, during the same period, also financed several transmission line projects that connected MHP plants to the national grid. The ongoing interventions come under the Indicative Cooperation Program (ICP 2011-2014) between the Kingdom of Belgium and the Government of Rwanda (described in Chapter 1).

EnDev: In 2006, through the PSP Hydro project took the lead and introduced a PPP approach in micro-hydropower development in Rwanda. The approach provided significant leverage to public funds, at the time when the Government was in urgent need of more investment in the sector.[23] PSP

[23] Between 2002 and 2008, Rwanda, as well as other countries in the region experienced a significant shortage of on-grid power.

Hydro financial subsidy, also called Viability Gap Funding, is calculated in a way to ensure the financial viability of the project, considering certain financing conditions and approved cost of the project. PSP Hydro´s intervention, being the precursor, was also instrumental in the early setup of legal and regulatory framework to govern private sector involvement in energy generation projects. The very first MHPs operated as IPPs benefited from EnDev support. In 2014, EnDev, jointly with EDCL conducted the first green field tender to develop MHP sites. During the same year, EnDev launched the Result Based Financing component (RBF). Companies under contracts benefit from result based incentives upon sale of solar lighting products and/or providing new access to electricity through mini-grid connections.

Energy for Impact (E4I): In 2014, the WB and EWSA signed an agreement under the Energy SMEs (ESME) to provide funds for several hydro projects and for companies venturing into the sale of solar lighting products. Under the same agreement, E4I assisted in preparing a pipeline of projects and to provide TA and monitoring of the companies that benefited from the funds. E4I is also implementing the Scaling-up off-grid energy in Rwanda, SOGER. The project aims to grow sustainable off-grid renewable energy markets by supporting private sector companies to deliver energy access to an estimated 77,000 people in poor rural areas. Funded by SIDA, the project involves a facility to support small isolated mini-grid projects, including small and pico hydro projects, providing electricity to rural communities. It also focusses on increasing productivity for small farmers through access to appropriate solar powered irrigation systems.

RECP: The Africa-EU Renewable Energy Cooperation Programme (RECP) is a multi-donor program that supports the development of markets for renewable energy in Africa. It was recently launched by more than 35 African and European Ministers and Commissioners under the Africa-EU Energy Partnership. By catalyzing the development of African renewable energy markets, the RECP intends to contribute to:

- Promote access to energy supporting sustainable economic growth and poverty eradication, within a sustainable development path.
- Develop value chains providing employment opportunities for men and women and business opportunities for African and European businesses.
- Enhance energy security and mitigating the impacts of volatile fossil fuel prices.
- Mitigate climate change by substituting fossil fuels
- Adapt to climate change by enhanced energy value chain and energy system resilience.

Rwanda is one of the focus countries where RECP intends to first become operational. There are 4 windows of intervention, one of which is access to international finance and as such of interest to PSPE.

SNV: The organization is currently implementing two energy related projects. The projects support the private sector through business development, technical assistance and capacity building. Their Integrate Renewable Energy Services projects (IRES) supports companies or entrepreneurs to design and develop innovative business models and distribution channels for solar pico-PV products. Through rural exhibitions, private companies reach out to rural areas and hence new trade partnerships between local cooperatives and companies. The second intervention is the Pico hydro sector support project. The project provides technical training and coaching to small hydro energy enterprises. In addition to training, the project supports local turbine manufacturing and the establishment of a pico-hydro association of Hydro entrepreneurs in Rwanda.

UNIDO: Between 2006 and 2009, MININFRA, with the support of UNIDO developed five off-grid MHP projects, applying a low-cost technology. The approach suggested that, upon commissioning, the

plants would be handed to the local administration, for the management and operation. However, the approach proved to be not very adapted as all plants were handed to back to REG for management and operation.

World Bank

The World Bank supports three main activities in the sector: the *Energy Access project*, which is closing down and that largely supported the EARP, the *REF program* described below, and a proposed *Development Policy Loan*, consisting mainly of budget support that is expected to start in 2017, and that is designed to further improve the efficiency and transparency of the electricity sector and increase electricity access.

REF: The Climate Investment Facility managed by the World Bank operates the global USD 780m SREP (Scaling Up Renewable Energy Program) funding window. The Renewable Energy Fund (REF), financed by SREP, is expected to empower a transformation in developing countries by demonstrating the economic, social, and environmental viability of renewable energy. It will leverage private investments sourced and through development banks. For Rwanda, SREP has set aside a 50million USD allocation for the REF, to be managed by BRD.

7.4.2 Secondary stakeholders

Secondary stakeholders are organizations that have an interest in the intervention and may become involved indirectly. They are not involved in the implementation.

7.4.2.1 MINECOFIN

The Ministry of Finance and Economic Planning (MINECOFIN) leads on resource mobilization to support energy investment and related financing requirements. MINECOFIN ensures the fiduciary framework to manage grants, loans, and other concessional finance from development partners into the sector.

7.4.2.2 MINALOC

The Ministry of Local Government (MINALOC) is the lead ministry in promotion of decentralized services delivery. MINALOC helps in promotion of improved rural based energy technologies and other energy initiatives targeting rural areas. Further, MINALOC speeds up the implementation of the National settlement program (“umudugudu” settlement schemes) that is targeted to reduce the cost of electrification per household.

Local Governments have the authority and mandate to coordinate the implementation of discrete enabling policies to drive local economic transformation. Districts are responsible for maintaining the District’s infrastructure. Specifically, they have direct responsibility for all decentralized service delivery, including those that may be related to energy at the grassroots. This includes national programs to scale up sustainable energy consumption currently being implemented by the electricity utility targeting communities.

7.4.2.3 MINEDUC

The Ministry of Education (MINEDUC), together with its affiliated research agencies (National Industrial Research and Development Agency and National Commission of Science and Technology), plays a role in the energy sector by building the competency and human resources base for sector development and by helping to link sector policies and strategies to research, technology development, and innovation. MINEDUC ensures that Technical Vocational Education and Training address skill shortages in the sector, including jobs related to electrical engineering and renewable energy technology installation and maintenance.

7.4.2.4 MOH

The Ministry of Health (MOH) is involved in health facilities electrification. Many rural health facilities such as hospitals and dispensaries have PV systems that have been installed either through a USAID or EU/BTC funded program. Maintenance of these systems is problematic as not enough funds have been allocated for this.

7.4.2.5 MINIRENA

The Ministry of Natural resources (MINIRENA) is responsible for ensuring the sustainability of natural resources exploitation and for developing and managing compliance to the national environment policy and law.

7.4.2.6 MINICOM

The Ministry of Trade and Industry is engaged to facilitate Rwanda's economic transformation through enabling a competitive private sector integrated into regional and global markets, while ensuring a level playing field and the protection of consumers. EARP collaborates with MINICOM regarding the industrial zones electrification.

7.4.2.7 MIGEPROF, NWC, GMO and FFRP

The Ministry of Gender and Family Promotion coordinates and advocates for the formulation of gender equality laws, policies and programs.

The National Women Council organizes, mobilizes and advocates for Women participation in National Development.

The Gender Monitoring office monitors the respect of gender equality, Gender-based violence prevention and response, and promotes gender accountability.

The Forum for Women Parliamentarians oversees and advocates for the enactment of Gender sensitive laws.

These constitute the strong institutional mechanisms for the advancement of Women in Rwanda. Gender sensitive policies, laws, programs and projects have been put in place to bridge gaps across sectors for sustainable development.

7.5 Logical framework

	Logic of the intervention	Indicators – Tentative target	Baseline	Target	Sources of verification	Hypotheses
GO	The energy sector is able to provide sufficient, reliable and affordable energy for all Rwandans	The number of households with access to energy is increasing, from all Tiers combined National electricity access rate of 100% (on and off-grid combined) by 2020 (RES target)	National electricity access rate : 19,8% Rural : 9,10 % Urban : 71,8% (2014, Global Tracking Framework)	100% by 2020 (grid/off-grid/mini-grid)	EDPRS M&E reports EUCL statistics Aggregated index of Access to Energy (global tracking framework)	On-Grid and off-grid electricity connections are being pursued
SO	The generation and distribution of electricity from renewable resources is increased by the participation of the private sector supported by the intervention.	All four REF windows show significant disbursements (PV lanterns and PV systems; SACCOs; local banks; mini grids) after 2 years. Growth of private sector participation in terms of capacity, investment, . . .	0 $ disbursement	10M$/year after 2 years, 20M$ next years	BRD reporting RES M&E Rwanda Energy Group (REG)	Use of REF funds leads to increased access. Program 1/voucher system does not hand out free PV lanterns or systems.
			67 MW production capacity	Min. 20% increase after 4 years		
			x M$ investment of the private sector	Min. 20% increase after 4 years		
R1	BRD is able to analyze the viability of project proposals	(a) The capacity of the renewable energy unit of BRD, expressed by the number of staff at BRD able to assess renewable energy projects and by the average time for proposal analysis (delay between proposal received and proposal analyzed)	0 staff members	5 staff members 1 month average time	BRD reporting	Staff retention
		(b) The size of the energy portfolio of BRD, indicated by the number of project proposals that are approved by BRD, and the amount of financing provided (indirect)	0 (off-grid) projects	50 projects		

	Logic of the intervention	Indicators – Tentative target	Baseline	Target	Sources of verification	Hypotheses
R2	BRD is able to proactively identify a pipeline of potential viable projects and to assist the private sector to develop them	(a) the number and value of agreements signed between BRD and financial institutions (SACCOs, MFI, banks)	0 agreements	30 agreements $30M (4 years)	BRD reporting	
		(b) number and value of agreements with private companies for the realization of renewable energy projects (indirect)	0 agreements	20 agreements $20M (4 years)	BRD reporting	
		(c) the number of male/female entrepreneurs who receive a credit for a bankable project proposals	0 entrepreneurs	20 (13 Males /7 Females)	BRD reporting	
		(a) the number of events campaigns organized and male/female participants at these events	0 events	8 events 900 participants (600 M /300 F)	M&E reports	Stakeholder participation in the events organized
		(b) the number of project proposals from private project developers that have been supported by BRD	0 proposals	130 proposals	BRD reporting	
		(c) the number of companies reached for training and support	0 companies	30 companies	M&E reports	
		(d) the number of male/female entrepreneurs who benefit from technical support for a project proposal	0 entrepreneurs	50 (35 M 15 F)	M&E reports	

	Activities to reach Result 1	**Means**	**Belgian Contribution**
R1	BRD is able to analyze the viability of project proposals		Costs in Euros
A1.1	Technical assistance through expertise in renewable energy financing	BRD PIU Long-term expert Short-term TA	540,000
A1.2	Develop the tools for analyzing renewable energy investments	BRD PIU Short term TA	200,000
A1.3	Specific training on analyzing renewable energy investments	BRD PIU Short term TA	100,000
	Total		840,000

	Activities to reach Result 2	**Means**	**Belgian Contribution**
R2	BRD is able to proactively identify a pipeline of potentially viable projects and to assist the private sector to develop viable project proposals		Costs in Euros
A2.1	Outreach to local financial institutions and private companies and linking up with the various stakeholders	BRD PIU Short term TA BRD, stakeholders	190,000
A2.2	Capacity building among local companies to develop bankable business plans	BRD staff long-term TA	188,800
A2.3	Match making between local companies and international parties interested in renewable energy electrification and in promoting Women's entrepreneurship in Rwanda	BRD staff	75,000
	Total		453,800

7.6 Implementation calendar

Figure 9: Implementation timetable

				YEAR 1	YEAR 2	YEAR 3
A			**The generation and distribution of electricity from renewable resources is increased by the participation of the private sector**			
A	*01*		*BRD is able to analyze the viability of renewable energy project proposals*			
A	01	01	Technical assistance through an expert in renewable energy financing			
A	01	02	Development of tools for analyzing renewable energy investments			
A	01	03	Specific training on analyzing renewable energy investments			
A	*02*		*BRD is able to proactively identify a pipeline of potentially viable projects and to assist the private sector to develop them*			
A	02	01	Reach out to financial institutions and private companies and linking up with the various stakeholders			
A	02	02	Capacity building among local companies to develop bankable business plans			
A	02	03	Match making between its members and international parties interested in renewable energy electrification and in promoting Women's entrepreneurship in the sector in Rwanda			

7.7 ToR long-term personnel

7.7.1 Intervention manager

Private sector participation in the generation and distribution of electricity from renewable sources
Sector: Energy **Duty Station**: Rwanda, Kigali **Duration**: 36 months **Organogram**: ✓ **N+1** : Resident Representative ✓ **Hierarchic responsibility**: o Number: 0 ✓ **Partners**: Development Bank of Rwanda (BRD) **Context :** The Indicative Cooperation Program (ICP 2011-2014) between Belgium and Rwanda allocates a total grant envelope of 49 million euro to the energy sector in Rwanda. The energy program contains 6 interventions. Included as component 6, the scaling-up of the generation of renewable energy by the private sector has a revised Belgian contribution of 2 million EUR and a duration of 4 years (RWA 15 096 01; Private Sector Participation in the generation of renewable Energy, or: PSPE). The general objective of PSPE is the provision of sufficient, reliable and affordable energy for all Rwandans, which is the same as for the three earlier contributions of Belgium to the nationwide Electricity Access Roll-out Program (EARP). The specific objective of PSPE is to support the participation of private project developers in the generation and distribution of electricity from renewable energy sources. The intervention will be implemented by the Development Bank of Rwanda (BRD)
Profile
Diploma required : - Level: Master - Orientation: University degree in Engineering, Business Administration, Management, Development studies, or related disciplines **Experience :** - A minimum of 5 years' experience in the management of international development cooperation interventions; - A minimum of 3 years' experience in related technical the fields of expertise of the intervention **Required technical knowledge:** - Proven experience in Project Cycle Management, Systems and Result Oriented Management - Experience in Monitoring and Evaluation of projects; - Experience with high level public institutions is an advantage; - Experience in designing Gender strategies to promote female entrepreneurship and access to finance in Energy sector is a strong asset; - Very good hands-on knowledge of excel and word is a must. Other programs (Database, accounting programs) a strong advantage; **Soft skills:** - Mature, good communicator and team player; - Able to work sometimes under stressful conditions **Language** : Proficient in English and in French

JOB ARCHITECTURE

Job title
Intervention Manager

JOB OBJECTIVE

Manage the intervention in order to ensure optimal execution of the intervention – within the set program framework.

RESULT AREAS

Result area 1: As **member of the program coordination committee**	
Provide necessary contributions	
in order to optimize program implementation	
Main tasks:	- Mainstream the transversal themes in the interventions; - Provide information for the further development of program strategy choices, methods and tools; - Contribute to the meetings of the extended Program coordination; - Support promoting the Program strategy in line with steering committee decisions; - Develop stakeholder participation in the intervention area - Notify management of synergies with other interventions within the program.
Results area 2: As **Intervention manager**	
Manage the operational and financial planning	
in order to ensure a smooth start-up, progress and the results of the intervention.	
Main tasks:	- Start up and close the intervention with attention for proper planning and decision making and good representation of stakeholders; - Elaborate the multi-year planning, in consultation with Program coordination and with the partner as per agreements; - Determine, in consultation with the partner, realistic change objectives throughout the results chain (which products, which mutually related transition/change management activities); - Elaborate the operational and annual planning; - Ensure the evaluation system is followed up; - Plan and organize the needs for internal and external expertise; - Manage the main risks and opportunities and take preventive and corrective measures.
Results area 3: As I**ntervention coordinator**	
Coordinate the activities and ensure their execution, in compliance with set arrangements and procedures	
in order to achieve the intervention objectives.	
Main tasks: To be included in the above:	- Monitor the activities and regularly report on the state of progress; - Ensure the administrative and financial monitoring of the Belgian contribution to the intervention in accordance with applicable arrangements and procedures; - Mainstream the transversal and priority themes in the interventions; - Be the primary contact person for the stakeholders of the intervention, including the Program coordination.
Results area 4: As **Knowledge manager**	
Coordinate the knowledge building process and ensure that the results thereof are disseminated	
in order to ensure a knowledge-based program approach.	
Main tasks:	- Stimulate a methodological learning approach (action-research); - Contribute to the reflections on strategy choices, methods and instruments of the Program; - Participate in the Extended Coordination meetings of the Program. - Ensure knowledge sharing with intervention stakeholders.

Results area 5: As **People manager**	
Lead the team of which one is the hierarchical supervisor	
in order to have qualified and motivated staff.	
Main tasks:	- Put in place an appropriate organization in terms of roles and responsibilities - Ensure that the roles and procedures which the head office has determined are respected; - Determine the objectives and priorities of the staff members; - Contribute to the recruitment of staff members; - Motivate, coach and follow up staff members; - Create an atmosphere of trust and accountability; - Develop the competencies of co-workers; - Promote a positive internal atmosphere and manage conflicts within the entity.
Results area 6: As **Facilitator**	
Capacity development of partner entities	
in order to contribute to the improvement of their organization, processes and systems and of their staff's competencies.	
Main tasks:	- Assess the maturity of management of partner entities; - Advise partner entities on actions to be taken to improve their management as well as how to implement these actions; - Facilitate the change process; - In association with the partners, adapt the organizational structure, optimize the processes, improve the systems and strengthen staff competences.

POSITIONING

Whose subordinate are you?(Whom do you report to?)	Resident Representative
Who do you supervise?	Number of **direct co-workers** the jobholder supervises **hierarchically**: variable (maximum 8) Functions: NTA, ITA, accountant… Number of **indirect co-workers** the jobholder supervises **hierarchically**: variable Functions: 0

AUTONOMY

Entitled to decide independently on the following: (without explicit consent of the supervisor)	- Methodology - Organization of one's own work - Proactive actions to manage daily problems and risks
Authorisation from the management is required for the following:	- Implementation of new instruments, procedures, processes - Actions pertaining to major problems or risks - Matters with a budgetary impact - Decisions that have a general impact on BTC/ the programs/ interventions… - Decisions that exceed the scope of the function

DIPLOMA AND/OR LEVEL OF EDUCATION REQUIRED FOR THE JOB

Is a specific level of education or degree required to perform the job?

Master

EXPERIENCE REQUIRED FOR THE JOB

Is a number of years of relevant professional experience required to perform the job? Is a certain general experience required, for instance, within a certain sector? It concerns the experience required to perform the job independently.

- At least 5 years of relevant experience in steering interventions/projects and international cooperation; experience with more than one intervention/project is an advantage;
- At least 5 years of relevant experience in the specific area of expertise.

TECHNICAL SKILLS REQUIRED FOR THE JOB

The technical or organization-specific knowledge and skills required to perform the job successfully (for instance, languages, programming languages). Please indicate both the degree of specialization (depth) and the diversity (width) of the required technical expertise.

- Broad and in-depth insight in all aspects of development cooperation
- Thorough knowledge of project management methodologies
- Thorough knowledge of the specific area of expertise (sector/theme)
- English, French

INNOVATION

Please indicate to what extent the jobholder is expected to bring improvement, achieve further development or initiate new development in his/her job.

Normal level of innovation.

What is being developed? (working method, procedures, products…)

Procedures, processes, Internal rules of procedure

What can the jobholder rely on to introduce these improvements or developments?

On the job training – Personal experience and experience of co-workers – Specialised literature – Training – Internal coaching – Networking

7.7.2 Renewable energy financing expert

(To be procured through a tender procedure for service contract)

Private sector participation in the generation and distribution of electricity from renewable sources

Sector : Energy

Duty Station : Rwanda, Kigali

Duration : 36 months

Organogram:

- ✓ **Contract manager** : Director of intervention
- ✓ **Partners**: Development Bank of Rwanda (BRD)

Context :

The Indicative Cooperation Program (ICP 2011-2014) between Belgium and Rwanda allocates a total grant envelope of 49 million euro to the energy sector in Rwanda. Included as component 6, the scaling-up of the generation of renewable energy by the private sector has a revised Belgian contribution of 2 million EUR and a duration of 4 years (RWA 15 096 01; Private Sector Participation in the generation of renewable Energy, or: PSPE).

The general objective of PSPE is the provision of sufficient, reliable and affordable energy for all Rwandans, which is the same as for the three earlier contributions of Belgium to the nationwide Electricity Access Roll-out Program (EARP). The specific objective of PSPE is to support the participation of private project developers in the generation and distribution of electricity from renewable energy sources.

The intervention will be implemented jointly with the Development Bank of Rwanda (BRD).

Profile

Diploma required :

- Level: Master
- Orientation : Engineer with substantial financial analysis experience, or economist with technical/engineering and financial analysis experience, and preferably renewable energy involvement; a Masters in Energy, Finance, and/or related field

Experience :

- At least 5 years of relevant experience in the sector or thematic domain
- International experience is an asset.
- Experience with project financing, financial analysis of investment projects
- Experience in renewable energy project analysis
- Experience in designing Gender strategies to promote female entrepreneurship and access to finance in Energy sector is a strong asset'
- Experience in project/program monitoring & evaluation (M&E), ideally in energy access projects/programs, is an asset

Required technical skills/knowledge:

- Good analytical capacity
- Good report and scientific articles writing skills for publishing

Soft skills:

- Strong interpersonal, leadership and coaching skills
- Familiar with participatory approaches
- Capacity to work in a multicultural and multidisciplinary context

Language : Proficient in English and in French

Main duties and responsibilities:

- Training of BRD staff in due diligence and risk assessment specific for energy projects
- Develop specific analytical tools and software for due diligence and risk assessment
- Develop tools for monitoring and evaluation of energy projects
- Support BRD in establishing a plan for reaching out to SACCOs and other commercial financial institutions
- Support BRD in its strategy for business incubators and for its direct assistance to private developers
- General coordination with the World Bank, SIDA and GiZ
- General monitoring of the intervention
- (….)

Main outputs:

- Comprehensive baseline report
- Needs assessment and capacity building plan for the staff of BRD in the Energy Unit
- Analysis of the existing tools and proposal for update or extension
- Stakeholder analysis including private sector, business organisations, financial institutions and SACCOs , and other donors
- Outreach strategy for other financial institutions and for the private sector
- (…)

7.7.3 BRD Senior Manager

The Senior Manager will be in charge of managing results area 1 and 2 of the intervention, in co-management with the BTC intervention manager. The senior manager will be a member of the IMU and work according to the implementation modalities mentioned in chapter 5.

Main duties and responsibilities include:

- Plan, implement, and monitor all intervention activities related to Private Sector Participation in generation of Electricity (PSPE) for the results where BRD is involved (result area 1 and 2).
- Coordinate BRD activities with all external stakeholders/partners in the PSPE intervention
- Develop appropriate strategies for reaching out to BRD stakeholders
- Organize events, conferences and meetings
- Provide all necessary information to the IMU on other BRD activities (especially the REF: the senior manager will liaise between the REF and PSPE).
- Update BRD management about the PSPE intervention regularly and adequately according to BRD rules and procedures
- Coordinate the staff (technical, administrative, managerial) working on the PSPE activities at BRD
- Inform the IMU about capacity building needs and issues coming up during the intervention, and propose solutions
- Collect and compile information and reports for BTC
- Act as the focal person for external communication and correspondence in timely and accurate manner
- Together with the other IMU members, constitute the secretariat for the Steering Committee of the intervention.

Duration of the assignment

The contract is proposed to be 4 year starting from his/her recruitment

Profile

The Senior Manager will have the following profile:

- A university degree (engineering, economics, management)
- Extensive experience in project/bank financing
- Experience in working with the private sector, preferably in the energy sector
- Project management experience (planning, budget, reporting, risk management, HR management)
- Capacity building experience : staffing, training, needs analysis, management of external expertise and knowledge transfer
- Excellent communicator

7.8 References

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- Common Performance Assessment Framework (CPAF) (April 2011)
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- Economist Intelligence Unit Report on Rwanda (May 2012)
- EDPRS 2008-2012 (September 2007)
- EDPRS II 2013-2018 (June 2013)
- Electricity Law (June 2011)
- ESSP 2013-2018 Electricity Sector Strategic plan (March 2015)
- Hydropower generation status update, (July 2016).
- Indicative Cooperation Program (ICP) Belgium – Rwanda 2011- 2014
- Media report, The New Times, (January 10th, 2016).
- NEP (March 2015)
- Rural Electrification Strategy (RES) (2016)
- Rwanda – Development Bank of Rwanda – BRD; Assessment of Capacity to be an Effective REF Facility Management Unit (2016)
- Rwanda hydropower Atlas, (July 2016).
- SE4All Country Action Plan (March 2015)
- Vision 2020 (2000)