

**National Climate Change and Environment Fund (FONERWA)
Full Project Document (PD)
COVER SHEET**

(Attach this sheet to the front of your submission. *Please do not exceed one A4 side of paper.*)

Project Title	National e-waste management strategy for Rwanda to support the establishment of sustainable recycling industries
Project Summary <i>(In 75 words or less please summarise what your project intends to achieve and how)</i>	The project is designed to implement a national framework for e-waste recycling, countrywide collection scheme, establishment of a dismantling facility linked to sustainable recycling industries at national and international level. Information and awareness campaign will be extended to private, public institutions and local communities. This will benefit the conservation of natural resources, the creation of green jobs and control of hazardous materials
Anticipated Start Date <i>(DD/MM/YYYY)</i>	01/04/2014
Project Duration <i>(in months)</i>	36 months
Funding Requested <i>(RWF)</i>	873,647,300 Rwf
Name of Lead Organisation	Rwanda Resource Efficient and Cleaner Production Centre/ Ministry of Trade and Industry
Type of Organisation, which best describes the Lead Organisation <i>(please select only one box)</i>	<input checked="" type="checkbox"/> Government Institution <input type="checkbox"/> Non-Governmental Organisation (NGO) <input type="checkbox"/> Private Sector Enterprise <input type="checkbox"/> Academic Institution <input type="checkbox"/> Other <i>(please specify)</i>
Partner Institutions	MYICT, RDB, MINIRENA, REMA, MIYCT, MINICOM, RHA and International partners (UNIDO, UNEP, World loop ,ect)
Full Office Address	PSF Building – Gikondo
Website Address <i>(if applicable)</i>	www.rrecpc.org
Contact Person <i>(the person who will have ultimate responsibility and be accountable for delivering this project)</i>	Name: NIYONZIMA Steven Position: National Coordinator Email: info@rrecpc.org/niyosteve12@gmail.com Tel: +250-255121240/0788306742/

For Internal Purposes Only: *To be Completed by the Fund Manager*

Date Received: _____

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Feasibility Study? (Y/N) _____

PPD Code: _____

Thematic Financing Window: _____

FONERWA Entry Point: _____

Technical Appraisal Score: _____ **Rank:** _____

National Climate Change and Environment Fund (FONERWA)

Full Project Document (PD)

(Please provide a complete answer to each question, even if the answer is duplicated elsewhere. This PD should not exceed 35 sides of A4 size paper.)

SECTION 1: INFORMATION ABOUT THE APPLICANT

Q 1.1 **What** is the Lead organisation's total number of full-time employees?

Rwanda Resource Efficient and Cleaner production Centre is the lead organisation and it has a total number of 6 full-time employees. In addition RRECPC is working closely with the finance department of SPIU –MINICOM which has also addition 4 full time employees.

Q 1.2 **What** is your organisation's experience of managing similar projects or activities (*please explain why you think your organisation and partners are capable of managing the project*)?

Resource Efficient and cleaner production started in 2005 as a pilot Programme organized in Rwanda by UNEP and REMA. It introduced the Cleaner Production concept in nine Rwandan enterprises, and conducted trainings on cleaner production techniques

The Rwanda RECP centre was then established in October 2008 as a joint project between UNIDO and the Ministry of Trade and Industry with the mission of promoting resource efficiency and cleaner production practices for production efficiency, environmental performance and human development of Rwandan enterprises.

Waste management falls under the thematic area of the RECP programme which focuses on the prevention of waste and pollution.

Similar projects implemented by RRECPC are :

- Waste management for income generation Project

The waste management project for income generation started in 2008 with the aim of transforming waste into valuable materials. The project introduced a new technology of transforming agriculture waste to industrial briquettes products whereby these products are used now in bread makers (La Galette and Carrefour), sausage makers. So far 39 persons were trained and are in activities on waste management technologies including Briquettes production.

- Agaseke project

Agaseke Project was designed to provide an opportunity for vulnerable, unemployed and landless women of City of Kigali, by supporting them to create their own employment and a sustainable livelihood thereby enabling them to redeem themselves and their families out of extreme poverty. Each of the participating agencies has its own portion of the budget and activities to perform in the program. UNIDO through RRECPC program has assisted the project in improving high quality products through providing the good dyes stuff, trainings on dyeing system and in establishment of a quality certification standard for the Agaseke products. All 58 associations of the Agaseke project grouped in IBANGA Cooperatives have been trained on making dye menu using traditional and machines system. 65 color shades have been identified from 8 color shade and the group of basket weavers (5) who participated in making dye menus received practical training on how to train others on dyeing sisal fibers using standardized dye

menus. This document has been used by Rwanda Bureau of Standard to make a handcraft standard. UNIDO through RRECPC program has hand over the equipment provided to IBANGA Cooperative in presence of stakeholders such as Kigali city, Gasabo District, ASSOFERWA and UN Women.

- Promotion of Cleaner production technology in the Lake Victoria Basin Enterprises (LVEMP sub component 2.2)

The promotion of cleaner production technologies under LVEMP II is designed to address pollution and inefficient utilization of resources in industries

Other projects implemented by RRECPC are :

- African Beverages Industries Water Saving Initiative (ABIWSI) implemented in collaboration with UNEP
- Promoting Resource efficient in Small and Medium enterprises (UNIDO, UNEP)

Our local partner (REMA, RDB,RHA,etc) and international Partners (UNIDO, UNEP,) have implemented similar E-waste project _in other countries (Ethiopia, Kenya , Tanzania, ect). Through the close link of the RRECPC to UNIDO, and other partners, RRECPC/MINICOM will get continuous information on lessons learnt; challenges of ongoing projects related to e-waste management, Further through UNIDO the connection to additional international partners can be secured as well as information exchange. In addition UNIDO, Microsoft and WEEE Ethiopia organised a training for NCPs including RRECPC staffs on E-waste management standards.

As the project will establish a sustainable dismantling facility, TVET schools in Rwanda and in other countries will be able to benefit from the lessons learned and the possibility to implement suitably modified version of the business model.

Q 1.3 List the name, position, and email of key personnel involved in the project, such as the project executive, project manager, and core technical staff. (Provide a CV for each of the key personnel as an attachment to this PD)

POSITION	NAME	E-MAIL
PROJECT MANAGER	RRECPC	info@rrecpc.org
ACCOUNTANT	TBD/ SPIU MINICOM	
PROCUREMENT OFFICER	TBD/ SPIU MINICOM	
M&E OFFICER	TBD/SPIU MINICOM	
COLLECTION MANAGER	TBD/ SPIU MINICOM	
DISMANTLING MANAGER	TBD/ SPIU MINICOM	
TECHNICIANS FOR COLLECTION CENTERS	TBD/ SPIU MINICOM	
TECHNICIANS FOR DISMANTLING UNIT	TBD/ SPIU MINICOM	
DRIVER	TBD/SPIU MINICOM	

The above staffs will be recruited using normal SPIU procedures as it was in the consultation meeting with the E-waste Sector working group.

Q 1.4 Lead Organisational Finances. Provide a copy of these from the most recent audited annual accounts (income and expenditure statement & balance sheet in RWF, as well as the main sources of funding) as an attachment to this PD.

See attached documents for Finances from SPIU MINICOM and UNIDO. The Financials from MINICOM are audited and copies of audits were sent to the FMC team .

SECTION 2: INFORMATION ABOUT THE PROJECT

Q 2.1 **Why** is the project needed (*clearly state the problem this project will address and the evidence base for its justification. Where possible, refer to international, national and/or sectoral strategies.*) ?

The assessment of E-waste status in Rwanda has shown an increase in the Electronic and electrical equipment imported, the ICT equipment have increase 5 times more from 2001 to 2010. The subscribers on mobile network have dramatically increased from 1.6 to 25 % penetration with a current subscriber number of around 4 million. The Electronic and Electrical Equipment (EEE) inventory in public institution shows that 85% of all EEE is composed by the laptops. Among the 15% EEE remaining 14% are not working. Based on the data shown in the assessment of E-waste , The government of Rwanda and their partners felt that the E-waste management strategy would be important to design and implement now, before e-waste management becomes a crisis situation, due to increased volume , insufficient capacity for managing e-waste, and lack of knowledge and appropriate treatment technologies. The project has the potential to avoid most of the negative impacts experiences by other developing countries, due to high volumes of e-waste and the lack of an e-waste management strategy. Through this project, Rwanda will be better prepared to address the concerns showed by the assessment of E-waste status in Rwanda and for bigger volumes of e-waste generated which is very likely to happen in the near future. In addition, other East African countries (BURUNDI, DRC, etc.) can learn from Rwanda project on how to tackle with the problem of E-waste in early stage.

Rwanda is also a signatory to many agreements and conventions on environmental management. These include support for the provisions of Agenda 21 amongst other declarations and statement of principles, such as the Rio Declaration in 1992 on environment and development. Our country is also a member party to the Basel Convention on the control of trans-boundary movements of Hazardous Wastes and their Disposal. However, the used electrical and electronic equipment are stored and discarded with no clear measures established to manage it, and with no clear understanding amongst the population of the dangers it can cause. In Rwanda, e-waste is becoming a serious challenge for the future due to the fast growing volume of electronic and electrical equipment imported from the west, China and other countries.

The E-waste management strategy for Rwanda will support different initiatives already in place such as :

Draft E-waste policy :

In line with Vision 2020, Government of Rwanda integrated ICT as a key driver for socio-economic development by adopting the Rwanda ICT for Development (ICT4D), commonly known as the National Information and Communication Infrastructure Plan (NICI). The NICI plan, which started in 2001, aims at fast tracking Rwanda's transformation to a knowledge-based society.

The main **objective** of a national policy and strategy is to reduce environmental impact from E-waste in Rwanda. Other objectives are:

- To promote E-waste infrastructure systems,
- To encourage development of e-waste SMEs, hence promoting job creation,
- To promote industrial development with less pollution,
- To ensure safe disposal of hazardous E-wastes,
- To develop a critical human resource base knowledgeable in handling E-waste,
- To promote E-waste awareness and education.

The E-waste Management strategy will support the E-waste policy once its approved. The proposed Technical team in the policy will be drawn for the E-waste sector working group and the technical team implementing this project as agreed with stakeholders (see attached roles and responsibilities and consultation report with stakeholders)

Green Growth and Climate resilience Strategy

Rwanda aims to achieve middle-income status by 2020 and developed country by 2050, while also developing a green economy. In terms of E-waste, this means extending the life of used electronics when possible so that less waste is created that requires processes impacting climate change. An example is to dismantle e-waste locally and only transport the fractions that do not have a nearby downstream market to international partners for further processing. By avoiding the transport of large volumes of e-waste over a long distance, CO2 emissions can be reduced.

Economic Development and Poverty Reduction strategy (EDPRS II) for Rwanda

The EDPRS II has 4 priorities thematic areas which are: Economic transformation, Rural Development, Productivity and Youth Employment and Accountable Governance. The E-waste management project will contribute to EDPRS II priorities through different aspects.

The reuse and refurbishment of used equipment contributes the efficient use of resources and reduction of waste. Having an organised and efficient collection and transport system for equipment and e-waste will minimize CO2 emissions and prevent impacts on the environment and human health. And the operation of the facility will be planned in a way to keep emissions at a minimum level.

National Implementation Plan (NIP) for the Stockholm Convention

Parties of the Stockholm Convention have been requested to review and update their national implementation plan (NIP), as specified by a decision of the conference of the parties (COP). At the fourth meeting of the COP held from 4 to 8 May 2009, the COP added nine new POPs to annexes A, B and C of the convention, as per recommendation of the POPs Review Committee (POPRC). The NIP update process will enable Rwanda to establish inventories of products and articles containing the newly listed POPs. E-waste contains different forms of POPs –PBDEs.

Q 2.2	What change is this project intended to achieve (<i>state specific objectives, expected results/impact and long-term legacy. To address the core environment and climate change objectives of the project, it would be helpful to refer to national and sectoral climate change and environment objectives. Provide measurable indicators, within a log-frame matrix. In addition, make a note of the expected impacts on employment and poverty reduction, as well knowledge and technological transfer.</i>)?
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The overall objective of the project is to offer an “end –of-life “solution for electronic and electrical waste, allowing a sustainable use of ICT in Rwanda, preventing a negative impact of electronic waste on the health or the environment once this equipment has reached its end-of life, while at the same time strengthening the local economy through the creation of green jobs.

The specific objectives of the project are :

1. Support national institutions in the development of the strategy for e-waste management ,

the standard of e-waste and the review of policy and legal framework for E-waste management in Rwanda,

2. Establish an infrastructure and a network for the collection, dismantling and recycling of e-waste and promote employment opportunities especially for youth and women offered by responsible and conservative management of e-waste.
3. To create awareness with the public on the need for sustainable management of e-waste without any negative impact on health and environment.

The major outcomes of the project are the development of an e-waste management solution for Rwanda, including an up-to-date inventory, the design of an effective E-waste collection system and options for end-processing of non-hazardous and hazardous fractions, as well as the establishment of a manual dismantling facility. It will be possible to replicate this model in other developing countries with suitable modifications to meet the needs of the respective countries.

The outcomes of the establishment of a sustainable manual dismantling facility will be the decrease of the e-waste stockpiles, increase of employment, capacity building of SMEs and national institutions, decrease of health and environmental risk pertaining to e-waste treatment. The designed collection system will have a major impact on the percentage of e-waste that reaches the waste stream; the current estimated quantities are expected to grow significantly. The increased quantity of e-waste reaching the waste stream and being treated in an environmentally sound manner will have a positive impact on the environment as well as on the health of the people concerned. The establishment of the manual dismantling facility for e-waste will bring especially benefits to the informal sector, as these workers will be integrated into the proposed solution.

Another expected impact to the local communities will be the opportunity for employment in the collection of E-waste and in the dismantling facility as one of the major aims of the project is to integrate the informal sector.

As also the project will establish a sustainable solution for E-waste, other countries in Africa such as Burundi, DRC, etc will be able to benefit from the lessons learned and the possibility to implement suitably modified version of the business model.

Least but not last, stakeholders and communities will gain knowledge and experience on E-waste through education in the proper techniques, workshops, capacity building of interneers and training activities.

Q 2.3 **How** will the project objectives be achieved (*include a detailed Work Plan as an appendix highlighting key deliverables and activities and responsibilities. Clearly describe the approach and methodology to be followed and the sequence of activities planned.*)?

To achieve the objectives of the project, the following components (outputs) will be implemented :

1. Development of E-waste strategy and review of national E-waste policy and legal framework
2. Conducting a detailed inventory on the current situation of e-waste in Rwanda.
3. Set up and design of environmental friendly e-waste collection centres and refurbishment and dismantling facility
4. Collect and treat e-waste according to the required standards
5. Coordinate, monitor and evaluate the e-waste project.

Details on activities, responsibilities and sequences of activities are attached in the workplan.

Q 2.4 **How** does the project address cross-cutting issues such as gender and youth?

The aspect of gender and youth will be carefully considered during the project implementation .The project intends to employ youth and women associations and cooperatives in collection, re-use and repair activities. This will be expressed in the capacity building and sensitization activities. It is important to mention that, the presence of women and youth as consumer, user, generator of e-waste will be promoted in the training and awareness activities. Similarly, the role of women and youth as employers and employees in the collection , repair and re-use activities will receive special attention, given that there still a large gap in the access to technology between women and men.

Q 2.5 **Who** are the stakeholders affected by the problem, and who are the stakeholders influential in solving the problem? How have they been incorporated and involved in project design and delivery?

A consultation meeting with key stakeholders was held during the project design of ewaste management to full involve all key stakeholders (see attached consultation report and recommendation from different institutions.

In addition, improper management of e-waste disproportionately affects poor communities situated in the vicinity of dumps that receive the materials. Often it is the women and children who use rudimentary processes, like open- burning, to retrieve copper and other precious metals to support their families and are exposed to toxic materials. Fortunately Rwanda’s e-waste problem is not as severe as some in other developing countries. However, a proactive approach to addressing e-waste in Rwanda will help prevent future impacts on women and children, as well as the communities overall.

The government and Academia institutions are facing a major problem of stockpiles of old computer, which have been in warehouses for a long time waiting for proper treatment.

Government : Rwanda Environment Management Authority, Ministry of Youth and ICT (MYICT), Ministry of Trade and Industry (MINICOM), Ministry of Infrastructure (MININFRA), Rwanda Housing Authority(RHA), Rwanda Utility and Regulation Agency (RURA), and Rwanda Bureau of Standards (RBS). These government entities will play the major role in the project, including the development of policy, legal framework, regulations and standards, enforcement of the collection scheme and the dismantling facilities with REMA, RDB, MINICOM and MYICT as the key players in the program. They will also play a role in awareness- raising, collection and enforcement.

Private sector : EE importers/ manufactures (MTN, TIGO, AIRTEL, etc), refurbishment and recycling companies (STEELRWA, Rwanda plastic Industries, etc), waste collectors companies (COPED, AGRUNI, ISUKU, etc), women and youth cooperatives in districts, International processing facilities and smelters (UMICORE).

The private sector will be involved in helping to develop and manage the collection facilities and dismantling facilities. The project will also work with UMICORE, StEP member and other processing facilities to ensure the segments of the e-waste that cannot be processed in Rwanda or even Africa, can be shipped to a responsible facility. The project will also access the expertise of other dismantling facility in the region (Uganda, Kenya and Ethiopia) and other key international partners (UNIDO, UNEP and Wordloop).

Informal sector: The informal sector is a major stakeholder group in the collection, the refurbishment and the dismantling of obsolete EE, and have a lack of awareness of the potential hazards of improper treatment of E-waste. To overcome this problem and educate the informal sector in proper techniques, workshops, capacity building and training activities will be conducted to integrate the informal sector into the project. The informal sector will also play an important role for the design of the collection system. The e-waste collection system for the project will provide incentives for the informal sector to be part of a formalised collection system.

The table below contains the preliminary stakeholders analysis which will be further developed.

Preliminary stakeholders Analysis at the national level was done before the project :

Stakeholders	Interests/ Expectations	Impact by the project implementation
Government Institutions	Development of policy , regulations and standards Safe disposable of stockpiles of E-waste	+
Private sector	Business investment / generation of E-waste	+
Youth and women associations & cooperatives	Increased number of Jobs Awareness raising focus on gender aspects	+
Owners of e-waste/ importers of EE	Getting a safe disposal options	+
Recyclers	Getting training and obtaining raw materials	+
Waste Collectors	Gaining Knowledge and better business opportunities	+
Communities	Awareness raising Generation of e-waste Improved health & safety	+

Q 2.6 How will the benefits of the project be sustained after FONERWA funding comes to an end?

Collaboration and networking between RRECPC/UNIDO-UNEP PSF, beneficiaries, local communities and other relevant stakeholders are envisaged to sustain the project outputs beyond the current proposed funding. The use of local associations of women and youth in the collection activities will be one step towards ensuring domestication of the project.

During the implementation phase an E-waste association will be formed under PSF combining associations of collectors (Youth, women, Disabled), Private companies, Producer and retailers associations, etc. Selected and qualified representatives of the E-waste association will occupy strategic positions in the project such as collection manager, Dismantling manager, etc. It's also expected that during the three years, the project will generate financial incomes through selling of EE components (scraps) to the recyclers (national and International. After three years (3 years) the project will be handed to the private sector (e-waste association under PSF) with a significant financial start-up. RRECPC in its mandate to support the private sector, will continue to support and advice the E-waste association for the sustainability of the project after FONERWA Fund

Q 2.7 What is the scope for income generation from the project?

Working with the dismantling facility and international smelters will increase the recovery rate for precious metals, resulting in higher revenue for the project. A detailed business plan with predictions for the next 3-5 years is attached to this document.

Q 2.8 Preparation: Has a feasibility or pre-feasibility study been conducted (*If yes, then please attach a copy to this PD*)?

A pre –assessment on the e-waste status in Rwanda (Quantities of e-waste, management of e-waste) was conducted by REMA.
See attached report.

Q 2.9	Preparation: Are there any outstanding regulatory or legal requirements that need to be met before the project can proceed (<i>access to land, planning consent, use of new technologies</i>)?
<p>Institutions in the E-waste Sector working group agreed to facilitate any regulatory and legal requirement that will enable the successful implementation of the project. Consultations have been made with relevant institutions (RURA, RDB, REMA, etc.) and roles and responsibilities have been share. In addition MINICOM has agreed to provide lands in industrial zones for the construction of collection centres and dismantling facility.</p> <p>See attached minutes on the consultation with relevant stakeholders and the letter on the land earmarked by MINICOM.</p>	
Q 2.10	Preparation: Has an Environmental Impact Assessment been conducted for the project (<i>If yes, then please attach a copy to this PD</i>)?
<p>The EIA will be conducted before the construction of collection centres and dismantling unit. The report will be submitted to RDB.</p>	
Q 2.11	How will the performance of the project be monitored and evaluated (<i>both during and after the project</i>)?
<p>Monitoring and evaluation will be built into each step of the project, including the indicators in the log frame in Annex. Performance will be evaluated at each step of the process. Reports will document each step of the process. Adequate reporting shall be conducted as such quarterly reports and annually reports will be made. Monitoring and evaluation will be in integral part in the implementation of the project. Evaluation will be by process and impact. Process evaluation will examine if activities are being implemented as planned. Impact evaluation will evaluate the impact made to the target community, government and private sector using set indicators. After the design of the different stages of the e-waste management system (collection, dismantling, end-processing), a report will be prepared with detailed information on the achievements and the challenges faced. Another report will be prepared after the implementation of the collection system, the manual dismantling facility and the end-processing. The reports will be prepared in a quarterly frequency by the project Manager under the supervision SPIUMINICOM/RRECPC. Midterm and final evaluation report will be prepared during and after the end of the project. The midterm and final evaluation reports will be done by in external evaluator and the evaluation will focus on lessons learnt.</p>	
Q 2.12	How will you involve the beneficiaries and other stakeholders in monitoring and evaluation?
<p>A participatory approach and involvement of beneficiaries and stakeholders will be used in monitoring and evaluation. A steering and technical advisory committee will be formed mainly composed by main stakeholders, chaired by RDB and Vice chaired By MYICT and quarterly and annually reports will be submitted to the steering committee. The main activities involving stakeholders and beneficiaries will include monitoring visits, quarterly reports, midterm evaluation workshop, and end of project evaluation workshop.</p>	
Q 2.13	Which Output from the FONERWA's overarching M&E framework will be contributed to in the project's M&E Framework (<i>if possible choose an indicator from FONERWA's M&E framework</i>)?
<p>OUTPUT 2: Output indicator 2.3: Tonnes of Co2 equivalent emissions avoided</p> <p>OUTPUT 3: Output Indicator 3.3: Total no' of green jobs created</p> <p>By avoiding the transport of large volumes of e-waste over a long distance, CO2 emissions will be reduced.</p> <p>Local communities' especially youth and women will have green job opportunities in the collection of E-waste and dismantling facility.</p>	

Q 2.14 **Lesson Learning:** Please explain how the learning from this project will be disseminated and shared during (and at the end) of the project, and to whom this information will target (e.g. Project stakeholders and others outside the project)

Expected results and case studies will be disseminated and shared with project stakeholders and others outside the project as follows:

Process	Gov.inst	Academia	Research inst.	SMEs	Informal sector	NGOs ,CBO & Dp.Partners	Communities
National workshop	x	x	X	x	x	X	
Television, radio				x	X		X
Progress reports	x	x	x	x	x	X	
Community work							X
Printing press	X	X	X	X	X	X	
National Curriculum		X					
Websites	X	X	X	X		X	

Q 2.15 **Risk Management:** Please outline the main risks to the successful delivery of this project indicating whether they are high, medium or low. If the risks are outside your direct control, how will the project be designed to address them?

A major factor for the success of the project is the commitment of the Government of Rwanda to adopt the e-waste policy and promulgate necessary regulations to ensure the enforcement of the policy. The entire project will rely on the policy framework and regulations, which are currently drafted and in the cabinet. Such framework would support the establishment of collection centres and dismantling facility. To ensure that the end of –life equipment actually gets to the facility, an effective collection system is an important step. If a sufficient quantity of e-waste cannot be collected in the long term, the facility will not have adequate input to be self-sustaining; the stock will grow, while the informal sector will also grow, without proper e-waste management. Another factor that will influence the sustainability of the project in the long term is the movement of the market prices for the precious metals. Here the current projections are quite positive, as gold is the main value carrier for e-waste. These markets generally develop independently from global economic development and can be seen as a stabilizing factor during economic troubles. As long as the prices are comparatively high there are chances that the facility would be self-sustainable.

The informal sector, which uses crude recycling methods, can be a risk, if it is not integrated well into the e-waste management strategy. Financial incentives for formal collection and / or recycling will be needed to minimize the risk that the informal sector will continue to use rudimentary methods to recycle e-waste in cheaper way.

The position of this e-waste project within the market place is new or perhaps the first electronic and electrical waste recycling project in Rwanda. With current quantities shown by the E-waste study in Rwanda and future projections, this gives us a bigger advantage in the market because there is little competition in the e-waste ICT waste management sector for the whole of Africa.

Risk Level	Risk	Mitigation measures
Low	Policy and legal framework won't be approved by the cabinet	Stakeholder meetings and awareness raising initiatives on policy level to point out the need to approve the policy
	The current high interest of the	Ensure good communication

	government and patterns in the issue of e-waste management could drop if the interest of the government changes, which will reduce support of the initiatives, thus affecting project implementation and its sustainability	among all stakeholders and help them with information/knowledge sharing mechanisms. A sustainable business model for the project established to ensure long-term planning and attract more Partners and investors
Medium	Insufficient inputs into the facility to keep the operations running	Agreements with Government and other institutions with high usage of Electrical and electronic equipments (EEE) in particular Rwanda Housing Authority in charge of public assets will be established to ensure on-going input.
	Development of collection and recycling activities with the informal sector	Relatively high incentives for the informal sector will be calculated.
	Procurement procedures in the Government which may delay the implementation of the project	The project will have its own procurement officer and the procurement plan have been prepared in advance. Regular meeting with the procurement team

Q 2.16 Risk Management: What specific risks, if any, does your project pose to the environment, people or institutions affected by the project and how will these be managed and mitigated?

Risk level	Risk	Mitigation measures
Low	<p>Through the transport of the e-waste to different locations CO2 emissions will raise</p> <p>Inappropriate management of E-waste recycling facilities might cause air/soil/water pollutions near the sites</p>	<p>Design the collection and transport system in a way to minimise CO2 emissions</p> <p>Health and safety are taken seriously; protective gears, i.e. gloves, overalls, dust masks, goggles, are provided and have to be compulsory worn during work. Visitors to the site will also be required to wear some protective gear for their health and safety while on site. Special containers (mostly plastics) are provided for different categories</p>

	<p>Limited technical skills in the e-waste management</p>	<p>of waste. Plastic containers are more appropriate for hazardous fractions because of their anti-humidity. The facility is located on an uphill, no rivers, lake, wetlands or other water sources that are nearby the facility that could contaminate the soil and water. It is an enclosed area of many warehouses mostly meant to keep/store goods for resale. The site is roof covered, surrounded with walls and permanently guarded. The inside of the facility is a tiled floor, preventing any contamination of the soil and well ventilated powered with air conditioning equipments. The facility is equipped with a first aid box and a fire extinguisher in case of electronic fire break.</p> <p>The TVET schools such as Tumba college trained many technicians in refurbishment and dismantling of EE equipment. UNIDO has trained RRECPC staffs on E-waste management and study tours to existing WEEE centers have been done. In addition technical assistance & best practices from UNIDO/UNEP and NCPCs within the region will support the proper implementation of the project.</p>
<p>Medium</p>	<p>Transboundary movement of hazardous waste might occur in an inappropriate way</p>	<p>The national activities will include workshops in cooperation with the Basel Convention and Stockholm convention to raise awareness on the issue of transboundary movement of hazardous waste</p>

		and find appropriate solution
		Control and monitoring instruments will be established
Low	Project's contribution to the climate change is high	The EE articles with potential to emit gases to atmosphere such ODS , will be managed with utmost care to prevent emissions. Thus, the risk that the project will contribute to climate change is very low.

SECTION 3: PROJECT BUDGET AND VALUE FOR MONEY

Q 3.1 **What** is the total cost of the project (RWF; provide total cost for each year of the project disaggregated by capital and recurrent expenditure)?

Total budget for the project is 1,127,647,300 Rwf the capital expenditure is 80% and recurrent expenditure 20%.

(see attached in Annex 1 : Project Budget , Annual budget and quarterly budget)

Q 3.2 **What** is the total amount requested from FONERWA (RWF; provide financing needs for each year of the project)?

The Total amount requested from FONERWA is 873,647,300 RWF.

Year 2013-2014 : 44,136,850 RWF

Year 2014-2015 : 759,269,250 RWF

Year 2015 - 2016 : 216,826,700 RWF

Year 2016 - 2017 : 107,364,500 RWF

Q 3.3 **List** all other sources of funding. Note whether the status of other funding sources (*i.e. Whether the money has been approved or is awaiting authorisation*)

UNIDO & UNEP : 134,000,000 (Approved under UNDAP)

MINICOM + RDB : 120,000,000 (Approved : MINICOM will provide land for construction of collection centres and dismantling Unit, RDB will finance the E-waste strategic plan , policy review and amendment of law)

Q 3.4 **Additionality:** Explain why the project cannot be fully financed by other sources than FONERWA?

- The project is needed to contribute to the reduction and minimisation of environmental hazards caused by unsound disposal of e-waste

- To ensure the proper management of EE-wastes

- The financial benefits of recycling or the ability of recycled e-waste to generate income will make it one of the fastest growing business opportunities in Rwanda. Green jobs will be created in collecting, processing, and manufacturing the waste.

- A major benefit of recycling relates to conservation of the world's precious and finite natural resources such as forests, water and minerals. Most e-waste contains minerals such as gold, silver, bauxite, and copper, lead, tin and others. Only through sophisticated recycling processes these minerals can be recovered without going through the mining process. These processes are applied in only 5 integrated smelters globally, e.g. at Boliden based in Sweden.

- The energy cost to recycle precious minerals from e-waste is considerably less than the energy costs to mine minerals. By recycling e-waste results in an annual energy savings, equivalent to the energy

consumption of thousands of homes.

-It will give municipalities a feasible and cost effective alternative to land filling e-waste

-It will help meet the growing demand for electronic hardware spare parts

Funding is being sought from FONERWA because the project objectives are very much in line with the purpose of FONERWA, including to support sustainable management of natural resources and to promote research and development in green technologies. In addition E-waste recycling has a high potential to create new income and improve the proper resource use by industries. However, the initial investment for sustainable e-waste management is very high for local investors, public financial support such as FONERWA funds is very essential for the start of such project.

Q 3.5 **What** non-financial support is needed to implement the project? What is the best way for FONERWA to deliver this support?

Advocacy

Collaboration between government institution involved in e-waste

Q 3.6 **Value for Money (Economy):**
 i) Briefly describe how the required inputs have been identified and how the GoR procurement procedures will be used to ensure they are obtained cost effectively
 ii) Provide identified unit cost measures or selected project outputs? (Please see VfM guidelines on how to determine these. Further guidance from the FONERWA Secretariat is available)

The project will be under SPIU MINICOM, Government procedures will be used including open tenders and request of proforma invoices and cost effective will be selected .

Q 3.7 **Value for Money (Efficiency):**
 i) Briefly explain how the provision and operation of project inputs produce the expected outputs
 ii) What is the Net Present Value (NPV) and benefit cost ratio for this project (Please see VfM guidelines on how to determine these measures. Further guidance from the FONERWA Secretariat is available)?

PV costs	RWF 1,649,251,175		
PV benefits	RWF 2,691,299,579		
NPV	RWF 1,042,048,404		1,042,048,404
BCR	RWF 1.63		

Q 3.8 **Value for Money (Effectiveness):**
 How does your project demonstrate effectiveness:
 - How will it show the outputs meet the project objectives?
 - Which indicators will you measure to demonstrate effectiveness?

Tonnes of E-waste collected and dismantled are used as an effectiveness measure. Establishment of E-waste collection centres and recycling system will generate income for this project and will create green jobs is especially focusing on job creation for vulnerable young people and women. Additionally, through this project, skills for proper E-waste treatment will be developed among the project participants

Output indicator 4.1: Tonnes of E-waste collected

				489,970,050
Volume of the E-waste collected	Tons			661
UNITY COST PER 1 TON				741,256

Output indicator 4. 2 Tonnes of E-waste dismantled

				396,570,000
Volume of the E-waste to be dismantled	Tons			575
UNITY COST PER 1 TON				689,687

ATTACH ANNEXES HERE TO THE PD APPLICATION – *these can be accepted as separate files but clearly organise and identify the annexes so they are easy to refer to.*