GLOBAL ENVIRONMENT FACILITY
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Naoko Ishii
CEO and Chairperson

September 16, 2014

Dear Council Member:

UNDP as the Implementing Agency for the project entitled: ***Sierra Leone: Energy Efficient Production and Utilization of Charcoal through Innovative Technologies and Private Sector Involvement***, has submitted the attached proposed project document for CEO endorsement prior to final approval of the project document in accordance with UNDP procedures.

The Secretariat has reviewed the project document. It is consistent with the proposal approved by Council in November 2012 and the proposed project remains consistent with the Instrument and GEF policies and procedures. The attached explanation prepared by UNDP satisfactorily details how Council's comments and those of the STAP have been addressed. I am, therefore, endorsing the project document.

We have today posted the proposed project document on the GEF website at www.TheGEF.org. If you do not have access to the Web, you may request the local field office of UNDP or the World Bank to download the document for you. Alternatively, you may request a copy of the document from the Secretariat. If you make such a request, please confirm for us your current mailing address.

Sincerely,

Naoko Ishii
Chief Executive Officer and Chairperson

Attachment: GEFSEC Project Review Document
Copy to: Country Operational Focal Point, GEF Agencies, STAP, Trustee

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REQUEST FOR CEO ENDORSEMENT/APPROVAL
PROJECT TYPE: FULL-SIZED PROJECT
TYPE OF TRUST FUND: GEF TRUST FUND

PART I: PROJECT IDENTIFICATION

Project Title:	**Energy Efficient Production and Utilization of Charcoal through Innovative Technologies and Private Sector Involvement in Sierra Leone**		
Country(ies):	Sierra Leone	GEF Project ID:	4840
GEF Agency(ies):	UNDP	GEF Agency Project ID:	4904
Other Executing Partner(s):	Ministry of Energy (MOE); Ministry of Agriculture, Forestry and Food Security (MAFFS); and Ministry of Finance and Economic Development (MFED)	Submission Date:	10 September 2014
GEF Focal Area (s):	Climate Change	Project Duration:	48 months
Name of parent program (if applicable): ➢ For SFM ☐		Agency Fee:	US$ 176,818

A. FOCAL AREA STRATEGY FRAMEWORK[1]:

Focal Area Objectives	Expected FA Outcomes	Expected FA Outputs	Indicative Financing (GEF) ($)	Indicative Co-financing ($)
CCM-2: Promote market transformation for energy efficiency in industry and the building sector	Outcome 2.2: Sustainable financing and delivery mechanisms established and operational	Output 2.2: Investment mobilized Output 2.3: Energy savings achieved	1,650,000	8,800,000
Project management cost[2]			118,182	200,000
Total project costs			1,768,182	9,000,000

B. PROJECT FRAMEWORK

Project Objective: Improved and more efficient use of biomass energy resources through efficient charcoal production and improved cookstoves

Project Component	Type (TA/ INV)	Expected Outcomes	Expected Outputs	Indicative Financing from Relevant TF	Indicative Co-Financing
				($) a	($) b
1. Policy and regulatory frameworks on the use of more	TA	Strengthened institutional capacity on biomass	1.1 Adequately trained and capable decision-makers and relevant stakeholders (from EPA-SL, ministries, private sector, rural communities, etc.)	125,000	1,300,000

[1] Refer to the reference attached on the Focal Area Results Framework when filling up the table in item A.
[2] GEF will finance management cost that is solely linked to GEF financing of the project.

efficiently produced charcoal and improved cook stoves		resource utilization at the national, regional and community level Operational effective policy, legal, and regulatory frameworks and review mechanisms on biomass energy technology applications	leading efforts, communicating and managing more efficiently produced charcoal and improved cookstove utilization in an integrated manner 1.2 Formulated, approved and enforced policies, laws and regulations on more efficient charcoal and improved cookstoves production 1.3 Developed standards and certification for more efficiently produced charcoal and improved cookstove		
2. Development of public-private initiatives for the improved and more efficient production of charcoal and the scaling up of improved cookstove production	Inv	Increased number of investments on improved, more efficient charcoal and ICS production in Sierra Leone	2.1 Established partnerships between the public, private and community based organization (CBO) stakeholders involved in the value chain of charcoal production and utilization 2.2 Developed incentives through carbon finance, microfinance, startup grant, rebate and loan guarantee schemes to scale up sustainable charcoal and improved cookstove businesses 2.3 Implemented and operational i) 300 locally produced industrial stoves for income generating local enterprises such as fish smoking, bakery, gari processing and ii) 700 institutional stoves for school, prisons and hospitals. 2.4 Implemented and operational 100 locally produced efficient kilns for the sustainable production of charcoal. 2.5 Locally produced 14,000 energy-efficient stoves in rural households for cooking needs implemented and promoted for replication 2.6 Established and operational framework for the phase-out of traditional cook stoves and charcoal kilns	1,300,000	5,700,000
3. Improved awareness and outreach programme for more efficient production and	TA	Enhanced capacity of stakeholder in the value chain (producers, farmers,	**3.1** Developed gender sensitive capacity development and modules for the production and utilization of certified charcoal and ICS **3.2** Developed and implemented	225,000	1,800,000

efficient utilization of certified charcoal and cookstove		villagers, women, consumers, collectors)	promotional schemes on the social, economic and environmental co-benefits of improved charcoal and improved cook stoves to generate good buy-in and willingness to pay **3.3** Sensitized key value chain actors through public awareness campaign and capacity development		
Subtotal				1,650,000	8,800,000
5. Project Management Cost[3]				118,182	200,000
Total Project Costs				1,768,182	9,000,000

C. SOURCES OF CONFIRMED CO-FINANCING FOR THE PROJECT BY SOURCE AND BY NAME($)

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Co-financing Amount ($)
National Government	Government of Sierra Leone	In-kind	500,000
Multilateral Agency	UNDP	In-kind	200,000
Multilateral Agency	SLEPA (EU-CC Capacity Development)	Grant	5,100,000
Multilateral Agency	ICRAF BioDev	Grant	917.826
Bilateral	GERES	Grant	50,000
Bilateral	BRAC	Grant	1,682,174
Private Sector	WestWind Energy, Toyola Energy, Bockarie; Samu Enterprise	In-kind	550,000
Total Co-financing			9,000,000

D. **TRUST FUND RESOURCES REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY – N.A.**

E. **CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS**:

Component	*Estimated person weeks*	*GEF amount ($)*	*Co-financing ($)*	*Project Total ($)*
Local consultants	105*	$177,000	400,000	577,000
International consultants	72*	$135,000	480,000	615,000
Total	**177**	**$312,000**	**880,000**	**1,192,000**

*GEF FUNDING ONLY

PART II: PROJECT JUSTIFICATION

A. DESCRIBE ANY CHANGES IN ALIGNMENT WITH THE PROJECT DESIGN OF THE ORIGINAL PIF

A.1: National strategies and plans or reports and assessments under relevant conventions, if applicable, i.e. NAPAS, NBSAPs, national communications, TNAs, NCSA, NIPs, PRSPs, NPFE, Biennial Update Reports, etc.

(See section 2.5 of the GEF-UNDP Project Document for discussion about project conformity with relevant national strategies and plans)

A.2: GEF Focal area and/or fund(s) strategies, eligibility criteria and priorities

This project is consistent with the GEF-5 strategy to address climate change, especially the Objective 2 (Promote market transformation for energy efficiency in industry and the building sector), as improved cookstove use and efficient charcoal production will lead to energy saving. Section 2.4 of the GEF-UNDP Project Document discussed in details about project conformity with GEF Focal Area strategy and eligibility criteria.

A.3: The GEF Agency's comparative advantage: Not applicable.

A.4: The baseline project and the problem that it seeks to address:

As a part of finalizing the project document, the analysis of the baseline projects has been updated in Annex A of the GEF-UNDP project dicument and, correspondingly, some changes incorporated into the project design. The formulation and design of the Project is largely consistent with the concept and design in the original PIF, including major aspects such the overall budget, the duration of the project implementation, the total number of stoves to be disseminated, among others.

Based on elaborate stakeholder consultations, field visits, and surveys conducted during the PPG stage, there are some aspects that have been added or modified, mainly for the purpose of making the design of the Project more detailed and the implementation mechanisms more attuned to the field conditions.

The most significant ones of these are the following:

- **Demonstration of 100 charcoal retort kilns instead of scaling up 1,000 retort kilns:** During PPG, it was found that the market demand for retort kilns is too nascent to expect SME to set up enterprise to manufacture retort kilns for the scaling up of 1,000 retort kilns across Sierra Leone as proposed in the PIF. As the retort kiln is a new technology, there is a need first to prove the concept to the CPA members on the cost effectiveness and create and stimulate market demand for the retort kilns. As such it is recommended that 100 kilns will be piloted in ICRAF and EU-REDD+ project. The project will competitively select one or two local company to produce the first batch and see how the market develops and how the CPA members react to the technology. It would be too challenging given the size of the GEF funding for a project that is targeting a totally new technology to both expect to develop a market demand and local manufacturing supply

chain in the same time frame. The demand side pull has to be established first, then the supply side support can come into effect. Since GEF will be directly subsidizing most of the initial kilns no financial mechanism is needed outside the matching rebate to the CPAs. An activity to develop a commercial financing scheme for retort kilns by the end of the project (to ensure replication) will be conducted.

Other minor changes are:

Output 1.2 in the ProDoc combines Output 1.2 and 1.4 of the approved PIF that seeks to overcome the policy and regulatory and institutional barriers for the scaling up of clean charcoal and efficient kilns/stoves solutions as a vibrant inclusive value chain business

In partnership with Ministry of Finance and UNDP's Social Business Programme, Output 1.3 of the PIF is merged with Output 1.5 of the PIF to gather international and regional lessons learned for the design, formulation and approval of viable incentives that meet local needs and are sustainable beyond the GEF project.

Output 1.5 of the PIF is merged with Output 1.3 where lessons learned are used to design cost efficient incentives that meet local needs and are sustainable beyond the GEF project.

Based on Output 1.3 of the ProDoc, Output 2.2 of the ProDoc seeks to implement, test, upgrade and improve the incentives for the scaling up of improved cookstoves and demonstration of efficient charcoal kilns during project implementation. Matching rebates and loan guarantee scheme will be tested.

Output 2.3 of the PIF is merged with Output 1.4 of the ProDoc to develop the testing and certification protocols for the selection of certified cookstoves to be scaled up under output 2.5.

Output 2.4 in the PIF is split into Output 2.2. 2.3 and 2.4 in the ProDoc for the scaling up of industrial stoves and institutional stoves; charcoal kilns; and improved domestic respectively as integrated viable inclusive value chain business. Industrial and institutional stoves have been added to green up the cottage industry (bakery, gari cassava making, fish smoking) and institutional (schools, prison) sectors as these sectors do consume significant fuel wood. Output 2.5 and 2.6 of the approved PIF are also merged into these 3 outputs.

Output 2.5 of the PIF is merged into Output 2.3, 2.4 and 2.5 of the ProDoc where inclusive supply and value chains are developed.

Output 2.6 of the PIF is merged into Output 2.3, 2.4 and 2.5 of the ProDoc where social entrepreneurs are developed as inclusive business.

Output 2.7 of the PIF is re-numbered as Output 2.6 of the ProDoc to develop a multiyear framework for the phasing out of obsolete technology through awareness raising, demand creation and access to climate finance (NAMA, Standardized Baseline). Phasing out of obsolete charcoal production methods is also included.

There are some changes in the detailed breakdown of the budget. Parts of the budgets from Components 1 have been moved to Component 2 as some of the activities have been moved from Output 1 to Output 2. However, the overall GEF funding requirements remain the same as in the original PIF at USD 1,768,182. The changes in the allocation between components will not affect the original objectives and outcomes of the Project. The summary of the changes is shown in Table 2 below.

Table 2: Summary of Comparison between the GEF-Approved PIF and ProDoc		
Expected Outputs		**Rationale for Changes in PIF Outputs/Activities in the ProDoc**
GEF-Approved PIF	**Project Document**	
Component 1: Policy/regulatory frameworks on the use of more efficiently produced charcoal and improved cook stoves		
Output 1.1 Adequately trained and capable decision-makers and relevant stakeholders (from EPA-SL, ministries, private sector, rural communities, etc.) leading efforts, communicating and managing more efficiently produced charcoal and improved cookstove utilization in an integrated manner (NO CHANGE)	Output 1.1 Adequately trained and capable decision-makers and relevant stakeholders (from EPA-SL, ministries, private sector, rural communities, etc.) leading efforts, communicating and managing more efficiently produced charcoal and improved cookstove utilization in an integrated manner	Output 1.1 of the ProDoc seeks to develop and enhance the regulatory, technical and financial capacity of all key decision makers to champion and coordinate and regulate the biomass movement in Sierra Leone. Knowledge products from Output 3.1 of the ProDoc will be used to sensitize all stakeholders on the biomass business opportunities as 'a stop-gap' solution to access to modern energy services.
Output 1.2 Formulated, approved and enforced policies, laws and regulations on more efficient charcoal production and utilization (MERGED)	Output 1.2 Formulated, approved and enforced policies, laws and regulations on more efficient charcoal production and the promotion of efficient kilns and ICS solutions	Output 1.2 in the ProDoc combines Output 1.2 and 1.4 of the approved PIF that seeks to overcome the policy and regulatory and institutional barriers for the scaling up of clean charcoal and efficient kilns/stoves solutions as a vibrant inclusive value chain business. Support will be given to MOE to set up the Cooking Energy Stakeholder Group (CESG) and to develop the Cooking Energy Action Plan to translate the National Energy Policy (2009) into cost effective and sustainable charcoal and improve cookstove businesses.
Output 1.3 Formulated, approved and implemented incentive schemes for more efficiently produced charcoal and improved cookstove technology applications (MERGED)		In partnership with Ministry of Finance and UNDP's Social Business Programme, Output 1.3 of the PIF is consolidated with Output 1.5 of the PIF to be merged under Output 2.2 to gather international and regional lessons learned for the design, formulation and approval of viable incentives that meet local needs and are sustainable beyond the GEF project.
Output 1.4 Formulated, approved, controlled and enforced policies, laws and regulations for the use of more efficient kilns and ICSs (MERGED)		Output 1.4 of the PIF is merged with Output 1.2 of the ProDoc to design regulatory and institutional framework to support sustainable charcoal production and utilization and improved cookstoves.

Table 2: Summary of Comparison between the GEF-Approved PIF and ProDoc		
Expected Outputs		**Rationale for Changes in PIF Outputs/Activities in the ProDoc**
GEF-Approved PIF	**Project Document**	
Output 1.5 Reviewed lessons learnt in the financing and scaling up of more efficiently produced charcoal, and ICS production (MERGED)		Output 1.5 of the PIF is merged with Output 1.3 and developed as Output 2.2 where lessons learned are used to design incentives that meet local needs and are sustainable beyond the GEF project.
Output 1.6 Developed standards and certification for more efficiently produced charcoal and improved cookstove (RE-NUMBERED)	Output 1.3 Developed standards and certification for more efficiently produced charcoal and improved cookstove	Output 1.6 in the PIF is re-numbered as Output 1.3 in the ProDoc
2. Development of public-private initiatives for the improved and more efficient production of charcoal and the scaling up of improved cookstove production		
Output 2.1 Established partnerships between the public and private stakeholders involved in the value chain of charcoal production and utilization (NO CHANGE)	Output 2.1 Established partnerships between the public and private stakeholders involved in the value chain of charcoal production and utilization	Output 2.1 in the ProDoc defines the roles, responsibilities and rights of the various partners and how to incentivize and involve community-based organizations and grassroots institutions and utilize their network and experience in the roll-out of the efficient kilns and improved stoves to be disseminated in this Project.
Output 2.2 Developed incentives through carbon finance and microfinance to scale up more efficient charcoal and ICS production and commercialization (MODIFIED)	Output 2.2 Developed incentives through carbon finance, microfinance, start-up grant, rebate and loan guarantee scheme to scale up sustainable charcoal and improved cookstove businesses	Based on Output 1.3 of the ProDoc, Output 2.2 of the ProDoc seeks to implement, test, upgrade and improve the incentives for the scaling up of efficient charcoal kilns and improved cookstoves during project implementation. Start-up grant and end user rebate and loan guarantee scheme will be tested.
Output 2.3 Three (3) tested prototypes of improved cook stoves that are promoted for commercial production and widespread application (MERGED)		Output 2.3 of the PIF is merged with Output 1.3 of the ProDoc to develop the standard, testing and certification protocols for the selection of certified cookstoves and charcoal kilns to be scaled up under Output 2.4 and 2.5.
Output 2.4 Designed and implemented large scale program for the financing of 1,000 energy efficient charcoal kilns and 15,000 improved cook stoves	Output 2.3: Implemented and operational i) 300 locally produced industrial stoves for income generating local enterprises such as fish smoking, bakery, gari processing and ii)	Output 2.4 in the PIF is split into Output 2.2. 2.3 and 2.4 in the ProDoc for the scaling up of industrial and institutional stoves; charcoal kilns; and improved domestic respectively as integrated viable inclusive value chain business. Output 2.5 and 2.6 of the PIF are also merged into these 3

Table 2: Summary of Comparison between the GEF-Approved PIF and ProDoc		
Expected Outputs		**Rationale for Changes in PIF Outputs/Activities in the ProDoc**
GEF-Approved PIF	**Project Document**	
(CHANGED and MERGED)	700 institutional stoves for school, prisons and hospitals.	outputs.
Output 2.5 Developed inclusive supply and value chains for improved charcoal production and ICS use (MERGED)	Output 2.4. Implemented and operational locally produced 100 efficient kilns for the sustainable production of charcoal.	Output 2.5 of the PIF is merged into Output 2.3, 2.4 and 2.5 of the ProDoc where inclusive supply and value chains are developed. The numbers of efficient retort charcoal kilns have been reduced because retort kiln is a new technology and the sector is not ready for scaling up. 100 retort kilns will be piloted on the project site where ICRAF reforestation projects are located to demonstrate the proof of concept so that a scaling and replication plan could be developed in Year 3.
Output 2.6 Adequately capable local entrepreneurs producing certified charcoal and certified improved cook stoves (MERGED)	Output 2.5: Locally produced 14,000 energy-efficient stoves in rural households for cooking needs implemented and promoted for replication	Output 2.6 of the PIF is merged into Output 2.3, 2.4 and 2.5 of the ProDoc where social entrepreneurs are developed as inclusive business.
2.7 Established and operational framework for the phase-out of traditional cook stoves (CHANGED IN NUMBERING)	2.6 Established and operational framework for the phase-out of traditional cook stoves and charcoal	Output 2.7 of the PIF is re-numbered as output 2.6 of the ProDoc to develop a multiyear framework for the phasing out of obsolete technology through a Monitoring, Verification and Enforcement (MVE) plan, awareness raising, demand creation and access to climate finance (e.g. NAMA, Standardized Baseline). Phasing out of obsolete charcoal production is included.
3. Improved awareness and outreach programme for more efficient production and efficient utilization of certified charcoal and cookstove		
3.1 Developed gender sensitive capacity development and modules for the production and utilization of certified charcoal and ICS (NO CHANGE)	3.1 Developed gender sensitive capacity development and modules for the production and utilization of certified charcoal and ICS	Output 3.1 of the ProDoc seeks to develop and enhance the techno-financial capacity of DOE as the Centre of Excellence through the establishment of the Knowledge, Research, Information and Coordination Centre at DOE for the depository of bioenergy knowledge, baseline inventory data base, research, information and coordination of bioenergy activities. These knowledge products (training manuals, guidelines, DVD, CD, marketing leaflets) will be used for the training of public, private, CSO and end user stakeholders and under Output 1.1 and Output 3.3.
3.2 Developed and implemented promotional schemes on the social, economic and environmental co-	3.2 Developed and implemented promotional schemes on the social, economic and environmental co-benefits of improved charcoal and improved	Output 3.2 of the ProDoc seeks to overcome the marketing and information barriers and disorganised and informal sector through the development of user-friendly promotional materials (radio jingles, leaflets) to create demand

Table 2: Summary of Comparison between the GEF-Approved PIF and ProDoc		
Expected Outputs		Rationale for Changes in PIF Outputs/Activities in the ProDoc
GEF-Approved PIF	Project Document	
benefits of improved charcoal and improved cook stoves to generate good buy-in and willingness to pay (NO CHANGE)	cook stoves to generate good buy-in and willingness to pay	for efficient charcoal and improved cookstoves to reduce supply risks.
3.3 Sensitized key value chain actors through public awareness campaign and capacity development (NO CHANGE)	3.3 Sensitized key value chain actors through public awareness campaign and capacity development	Output 3.3 of the ProDoc seeks to use the materials developed under Output 3.1 and 3.3 to enhance the technical and business skills and to sensitize all value chain actors on the biomass business opportunity.

A.5: Incremental/Additional cost reasoning: describe the incremental (GEF Trust Fund/NPIF) or additional (LDCF/SCCF) activities requested for GEF/LDCF/SCCF/NPIF financing and the associated global environmental benefits (GEF Trust Fund) or associated adaptation benefits (LDCF/SCCF) to be delivered by the project:

By building on the updated baseline assessment, some complementary activities to and some rewording of the previous activities presented in the PIF have been added into the project design. These changes are reflected in the Project Results Framework presented in section 3 of the UNDP-GEF project document.

A unique opportunity now exists to complement activities being implemented by other partners to transform charcoal production in Sierra Leone into a more organized and sustainable business, thus enhancing its dual role as a source of livelihood for rural populations and an affordable household energy option for urban households in the short- and medium term (as well as addressing unsustainable land management issues by ICRAF and EU-REDD+ projects).

This project aims to tackle this challenge in a comprehensive way. It aims to achieve synergies with related initiatives mentioned in the baseline section while overcoming some of the design shortcomings from previous technology transfer initiatives in this area by taking a more value chain-oriented approach to appropriate energy technology transfer combined with improved land management practices within a targeted landscape (ICRAF and EU-REDD+). The overall goal of this project is to secure multiple environmental benefits by addressing the challenges of unsustainable utilization of woodfuel (including charcoal).

Incremental Reasoning and Linkages with the Baseline

Annex A in the GEF-UNDP project document describes in detail the incremental benefits of the different components relative to the BAU scenario.

A.6 Risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and measures that address risks:

Some complementary risks were identified during the project preparation, which are summarised in Table 11 of the GEF-UNDP project document.

A.7: Coordination with other relevant GEF financed initiatives:

The project development team held consultations on project activities to ensure coordination and collaboration between all the baseline projects and the proposed GEF project. Consultations with DOE and Ministry of Local Government and Rural Development seek to build on the village level governance mechanisms established for local energy services delivery. The project will establish improved cook stoves production facilities, building on the experience of existing local entrepreneurs such as WestWind Energy, Toyola Energy and Bockarie Enterprise and the baseline EUEI-PDF Household Energy Roadmap that aims to adopt fuel efficient cook stoves promoted by WestWind, which is said to be 40% more efficient than open fires. Collaboration with these pioneering partners will focus on building on its experience in initiating the improved cookstove and efficient retort charcoal kiln manufacturing unit in the country and its distribution network for improved cookstoves and charcoal kilns. Coordination between the Ministry of Finance and Economic Development, UNDP's Social Business, DOE and the Ministry of Agriculture, Forestry and Food Security (responsible for forestry matters) will be a priority of the project development team to ensure synergies and complementarities between both ongoing and planned projects and activities relevant to the proposed GEF project. The team will also consult biomass projects in other countries like Senegal, Nigeria, Ghana and Cambodia.

This project will also be closely linked to a number of other initiatives – past, ongoing and planned – in Sierra Leone, namely the UNDP's GEF Small Grant Programme, the Second National Communication for the UNFCCC, the National Adaptation Programme of Action, the National Biodiversity Strategy and Action Plan, Sustainable Land Management and other initiatives such as the ICRAF's BioDev and EU-REDD+ programnes that are currently being implemented. The planned support currently being designed by UNDP, ICRAF and FAO in assisting the Government promote agricultural productivity will be harmonized with this project; particularly the promotion of the productive use of renewable energy and technologies in the sector. The ongoing micro-finance institutions support program will be linked to the micro-entrepreneur development schemes to be initiated in this project. Coordination of the various programs and initiatives will be provided through the proposed Cooking Energy Stakeholder Group and Project Boards. In addition, the project will also leverage the regional experience of GERES and local experience of WestWind Energy, Toyola Energy, Bockarie and Samu in the promotion and application of improved cookstove and charcoal kiln, and the UNDP's Social Business program in the provision of financial products and services, including micro-financing for the development of the public-private partnerships to promote investments in the technologies and their productive use.

B. ADDITIONAL INFORMATION NOT ADDRESSED AT PIF STAGE

B.1 Describe how the stakeholders will be engaged in project implementation:

In order to ensure project sustainability beyond the GEF project and to optimize efficient coordination and implementation for the scaling up of improved cookstoves and demonstration of efficient charcoal solutions, the roles of the public, private and CSO stakeholders have been identified and are presented in Table 2 of the GEF-UNDP project document (page . Inputs from meetings, workshops, individual interactions and literature review were used to ascertain their role in the project.

A Project Board will be established at the inception of the project to monitor project progress, to guide project implementation and to support the project in achieving its listed outputs and outcomes. It will be co-chaired by UNDP and MOE. The MOE, as the key governmental agency in charge of environmental protection and climate change policies, will ensure that other governmental agencies are duly consulted and involved as per their mandate. The Board may also include representatives from public, private and

CSO stakeholders by ensuring, however, that the Board will remain sufficiently lean to facilitate its effective operation. Other participants can be invited into the Board meetings at the decision of the Board. Other stakeholders to be engaged in project implementation are discussed in chapter 2 of the project document with further details provided in Annex B of the GEF-UNDP Project Document.

The graphical presentation of the implementation arrangement and linkages among participating institutions and stakeholders is shown in Figure 2.

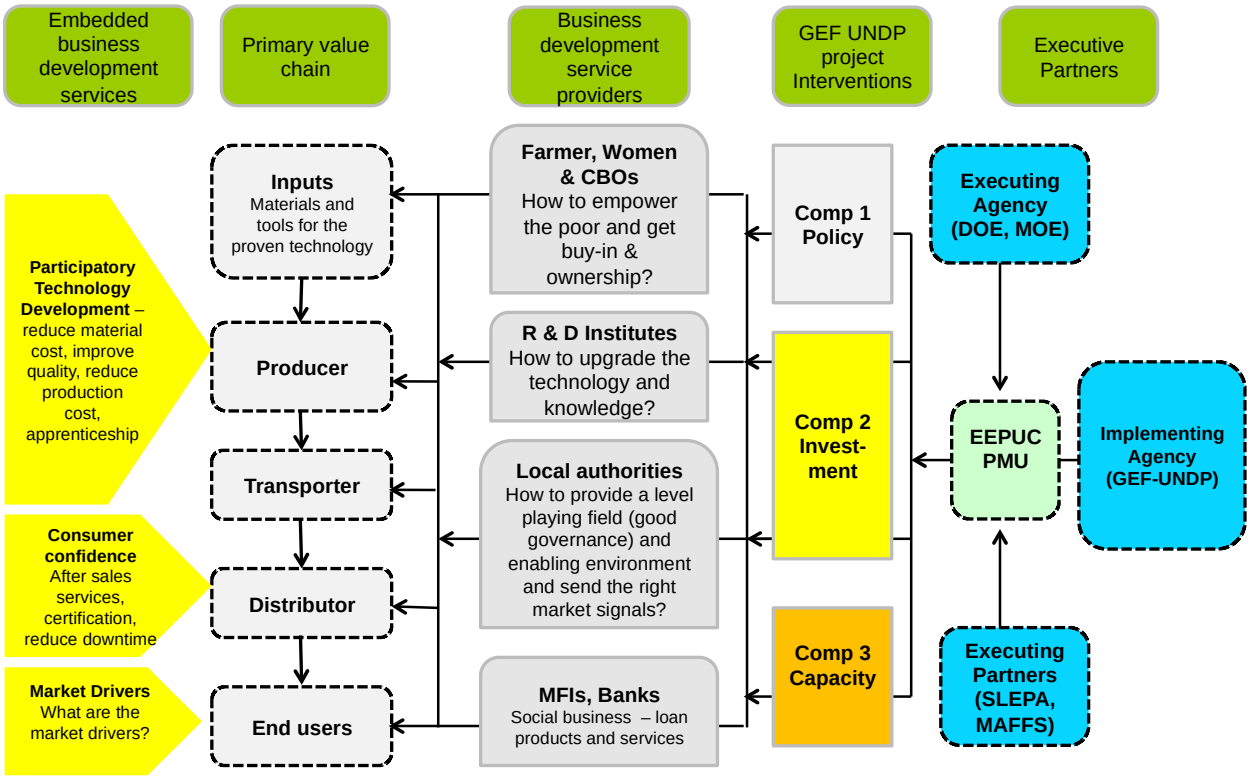


Figure 2: Engagement and linkages of stakeholders in the scaling up of improved cookstoves and efficient charcoal business

B.2 Describe the socioeconomic benefits to be delivered by the project at the nationals and local levels, including consideration of gender dimensions, and how these will support the achievement of the global environmental benefits (GEF Trust Fund/NPIF) or adaptation benefits (LDCF/SCCF)

Sierra Leone's economic and social development, achieving poverty reduction and improving food, water and energy supplies, are going to depend heavily on the country's renewable natural resources, and how they are exploited with regard to conservation and sustainability. A key issue for Sierra Leone is that, due to geological, topographical and climatic factors, the country's renewable natural resource base is not strong. Agricultural productivity is low, and more than 90% of households depend on wood for cooking and charcoal production further degrading the land and entrenching a cycle of poverty and resource degradation. While aiming to remove barriers for the deployment and expansion of biomass energy technologies and GHG emissions reduction, this project will also contribute towards the Government's effort on attaining the goal of poverty reduction through environmental mainstreaming. National capacity

will be strengthened to create and implement the enabling policy environment and mechanisms for the promotion of low carbon biomass energy technologies that will reduce the pressure on the forests and, at the same time, working in harmony with the Government's planned new Integrated Natural Resources Management/Poverty-Environment Initiative, support improved coordination, integrated planning, reporting and decision-making across key government and non-government agencies towards improved governance structures for the direct community engagement in poverty reduction and environment mainstreaming with the creation of Green Jobs and public-private partnerships in the management and conservation of renewable natural resources.

Women's participation, representation and access to resources and benefits will be a key focus of this project that aims to provide access to improved household energy needs through clean cooking stoves, advanced biomass cook stoves and charcoal kilns. The project will contribute towards social, economic governance transformations to empower women through specific activities that: promote participatory and consultative planning for decision-making; improve women's capabilities through their involvement, as consumers and producers in pilots and as role models; and, advance their influence in decision-making as well as control over natural resources. The project will have specific gender goal indicators, which will include the collection of gender-disaggregated data and a strong monitoring and evaluation mechanism to operate and advance gender mainstreaming and social equity.

The Project will focus on the promotion and use of biomass energy resources for the provision of energy access and services in rural areas. Overall, the Project is expected to result in a reduction of annual biomass/fuel wood consumption in Sierra Leone through the gradual utilization of biomass-based energy systems and efficiency improvements in the rural areas of the country as influenced by the Project. The Project will facilitate the widespread application of biomass-based energy systems in the country, particularly for economic and social uses in the country's rural areas. The reduction of GHG emissions in the country through the use of more efficient fuel wood technologies and sustainable biomass energy generation will in turn result in overall global GHG emission reductions.

The potential for synergies to mitigate and adapt to climate change in developing low emission, climate resilient, gender sensitive and sustainable development trajectory for the scaling-up of the improved cook stove and clean charcoal are outlined below:

Improved cook stoves (ICS)

- *Synergies*: Intermediate steps to accessing modern energy; standardizing energy efficiency parameters for faster marketing; ash as mineral fertilizer or compost enhancer; reducing in-house air pollutants; hybrid stoves for multiple fuel wood and briquette.
- *Mitigation*: Renewable energy for households; GHG reductions through reduced fuel wood consumption; reduced deforestation; household savings in reduced fuel wood consumption and time spent to collect fuel wood by women and children.
- *Adaptation*: Enhance climate resilience by advancing MDG goals (poverty reduction, mother and child health, livelihood); access to bioenergy and food security (climate friendly agriculture and forestry); livelihood security; reduce indoor air-pollution; organic farming; 'green jobs' created by social entrepreneurs for trained artisans in local fabrication places.

Efficient Charcoal Production:

- *Synergies*: Training of trainers and 'peer-to-peer learning'; access to technical and business and accounting skills; access to competitive credits.
- *Mitigation*: Low emissions charcoal production and small enterprise development, etc.; GHG

reductions (methane avoidance); reduced deforestation; household savings through avoided costs for fuel wood, fossil coal, kerosene, LPG and other cooking fuel as well as health costs.

- *Adaptation*: Advancing Millennium Development Goals (MDG) such as wealth, health, education, livelihood and thus building climate change resilience; increasing access to bioenergy and food security (climate friendly agriculture); 'green jobs' for trained technicians, masons etc.

B.3: Explain how cost-effectiveness is reflected in the project design

The proposed project targets the realization of a substantial increase in the sustainable and efficient use of biomass energy resources for the provision of energy services in Sierra Leone's urban and rural sector (i.e., for household, community and rural industry uses and charcoal uses) facilitated through the barrier removal activities focusing on institutional strengthening, regulatory framework, capacity building, market development and other technical assistance activities that will be implemented. During the project inception phase, targeted consultations will be held with local entrepreneurs to participate in the demonstrations projects, through investments in land, premises and hardware of the projects. Also, Component 1 of the proposed project focuses strongly on specific development and implementation of enabling environmental for sustainable bioenergy promotion, to be complemented with recommendations for fiscal incentives from the Ministry of Finance, as well as earmarked areas for sustainable bioenergy production.

At the end of the Project, approximately **187,328 tCO2e** emissions will be avoided directly, through the dissemination of 15,000 improved stoves and demonstration of 100 efficient retort kilns. Throughout the life of the same stoves and efficient kilns, and without the benefit of additional installations, the cumulative GHG mitigation is expected to be at least 684,825 tCO2e, giving a cost of less than **USD 2.58** of GEF resources/tonne of CO2 emissions avoided. The project's cost effectiveness will be tracked using the Tracking Tool for Climate Change Mitigation Projects developed by GEF.

C. DESCRIBE THE BUDGETTED M & E PLAN

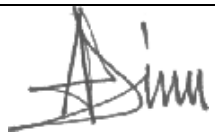
Project monitoring and evaluation will be conducted in accordance with the established standard UNDP and GEF procedures. For further details, please see Section 6 of the UNDP-GEF project document.

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the country endorsement letter(s) or regional endorsement letter(s) with this template).

NAME	POSITION	MINISTRY	DATE
Dr Kolleh Bangura	National Director for Environmental Protection Agency (SLEPA) and GEF OFP for SL	Ministry of Commerce, Industry and Environment	02/24/2012

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF/LDCF/SCCF policies and procedures and meets the GEF/LDCF/SCCF criteria for project identification and preparation.					
Agency Coordinator, Agency name	**Signature**	**Date**	**Project Contact Person**	**Telephone**	**Email Address**
Adriana Dinu UNDP – GEF Executive Coordinator and Director a.i.		10 September 2014	Saliou Touré, Regional Technical Advisor (EITT)	+221 77 115 19 90	saliou.toure@undp.org

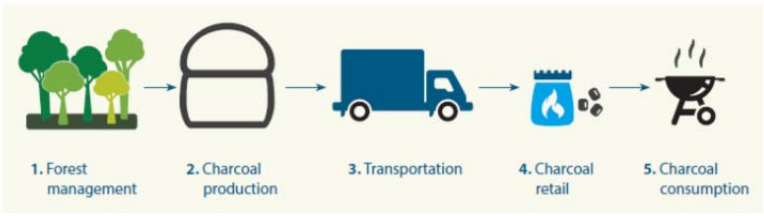
ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

Complete project results framework can be found in section 3, pages 75-77 of the GEF-UNDP project document.

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

Comments from Council at work program inclusion: Not Applicable

RESPONSES TO STAP RECOMMENDATIONS

Comment	Response	Reference
The project aims to promote improved and more efficient use of biomass energy resources in Sierra Leone. The PIF contains standardized components, outcomes and outputs which are common to most of the PIFs reviewed in this domain in the current work program. Many of them are very generic, and not specifically targeted to the country. Even the barriers listed are very general, applicable to any country and any technology. The PIF as currently written does not demonstrate that the proponent has a clear understanding of local conditions and how these may affect expected outcomes and proposed approaches/technologies. 1. The meaning of sustainable charcoal production kilns is not clearly defined. Does it involve sustainable production of woody biomass and efficient conversion to charcoal? Are efficient charcoal designs already available? Have they been field tested? What is the efficiency of traditional charcoal kilns? What is the proposed improved efficiency of the new designs? Will the stoves have to be developed through R&D? What is the size and capacity of the	To avoid generic design and one size fits all mentality, policy and financial de-risking instruments are developed to overcome the specific barriers and risks identified for the scaling up of ICS and demonstration of charcoal kilns in Sierra Leone. Result based management system are put in place for ensuring optimum impact and sustainable outcomes. a. Sustainable charcoal production is defined as the sustainable production of woody biomass and efficient conversion to charcoal. The charcoal value chain is quite complex. Each component of the chain has a number of different actors as noted in Figure 2 from the UNDP-funded Sustainable Charcoal NAMA Study (see Annex H). 3.2. VALUE CHAIN **Figure 1:** Charcoal value chain  **Source: Nationally Appropriate Mitigation Action Study on Sustainable Charcoal in Uganda, UNDP, 2012** This particular project primarily focuses on the stage 2 and 5 of the charcoal value chain, and to a lesser extent stage 3 and 4 whilst stage 1 is being implemented by ICRAF and EU-REDD+ projects. As noted in the PIF, the potential for reducing GHG emissions by promoting the application of improved kiln technology is tremendous, not only due to higher charcoaling efficiencies, but also due to the application of GHG reducing technologies (e.g. destruction of the methane stream). The main opportunities to reduce GHG emissions via the carbon cycle from the production of charcoal (stage 2) can be divided in two types: (i) Opportunities related to technology and practices for charcoal making and (ii) Opportunities related to a decrease in non-renewable share of biomass used. More specifically: (i) Opportunities related to technology for charcoal making: - Low CH4 emitting technologies. - Efficient conversion of biomass to charcoal which leads to biomass	ProDoc:

kilns? Charcoal and improved cookstoves have been disseminated in many African countries and the lessons learnt from these countries should be incorporated into this project.	savings. (ii) Opportunities related to a decrease in non-renewable share of biomass used: - Production of charcoal from carbon neutral biomass sources: - Production of charcoal from dedicated plantations (wood, bamboo, etc.). - Production of charcoal briquettes obtained from the carbonization and agglomeration of biomass wastes. On the efficiency side, lack of know-how, technical skills and simple technological improvement on charcoal production wastes considerable wood, resulting in harvesting more forest than would be necessary if wood-to-charcoal transformation were more efficient. Lack of improved cook stoves (ICS), whether for firewood or for charcoal, results in higher demand for charcoal, thus leading to more tree harvesting. A key principle of sustainability is that all players along the value chain should pay the economic price of the resource. This would encourage efficiency along the chain and would provide financial incentives to ensure that the stock of wood supplies are sustainable b. Are efficient charcoal designs already available? One private company has just installed a new Adam retort near Freetown. Samu Enterprise has also just constructed a new Brazilian retort kiln where the design was introduced before the war. During the war, most of the kilns were destroyed. This project will partner with these earlier pioneers to demonstrate the efficient retort kiln technology. c. Have they been field tested? As mentioned above in (b), two companies have started to test the more efficient retort kiln. d. What is the efficiency of traditional charcoal kilns? According to existing charcoal producers interviewed, current efficiency in Sierra Leone range between 18 to 22%. There is no formal testing and measurement in Sierra Leone. e. What is the proposed improved efficiency of the new designs? According to earlier research as shown in Appendix G of the ProDoc, traditional kiln has an efficiency of 20.8% whilst those of Adam kiln has 38.5% and Casamance kiln has 25%. These will be verified during project implementation. f. Will the stoves have to be developed through R&D? As shown in Output 1.4 to develop the testing and certification protocols, several stoves from the market will be tested and three prototypes will be certified and developed for scaling up under Output 2.4. Through the M and E plan, new design will be developed through R and D. g. What is the size and capacity of the kilns? The Adam kiln is expected to yield about 24 tonnes of charcoal per year	

	i.e. 2.4 t per batch x 10 batches per year. h. Charcoal and improved cookstoves have been disseminated in many African countries and the lessons learnt from these countries should be incorporated into this project. The lessons learned from African experience have been incorporated into the project design for ensuring project sustainability and viable business and these are further elaborated in Question 4 below.	
2. What is the source of wood for charcoal production? Is it sustainably harvested? It might not be the case. Participation of all stakeholders, particularly, local communities in assuring sustainability of supply-side interventions (sustainable forest management) is critical. There is a need to analyze the GHG emissions due to non-sustainable extraction of fuelwood for charcoal production.	a. What is the source of wood for charcoal production? In partnership with the FD under the ICRAF, EU-REDD+ and Forestry Energy Pilot proposed by the EUEI-PDR Sustainable Household Energy Roadmap, this GEF project will work with community groups under these reforestation programmes for the supply of renewable wood as kiln feedstock. b. Is it sustainably harvested? Yes these will be sustainably harvested and form part of the criteria for the Standard, Testing and Certification ordnance in order to qualify for training, matching rebate and loan guarantee scheme. c. Participation of all stakeholders, particularly, local communities in assuring sustainability of supply-side interventions (sustainable forest management) is critical. Yes it is critical that there is strong ownership, buy-in and incentives for all value chains actors and public stakeholders through evidence-based awareness raising and sensitization and outreach programme and demonstration of the co-benefits of the interventions and through participatory technology development for meeting local needs. e. There is a need to analyze the GHG emissions due to non-sustainable extraction of fuelwood for charcoal production. Parameters for GHG emissions calculation especially on estimated non-renewable biomass fraction used for charcoal production are illustrated under Appendix I of the ProDoc and these will be verified during project implementation for establishing a clear Standardized Baseline. Another update as regards the project baseline compared to the PIF was that at the seventieth CDM Executive Board (EB) meeting held in November 2012, a new charcoal methodology was approved. The SSC methodology, AMS-III.BG: *Emission reduction through sustainable charcoal production and consumption*, will for the first time provide an opportunity to earn CERs for switching from non-renewable to renewable biomass in improved kilns. The new SSC methodology and recently submitted standardized baseline (SB) pave the way for further carbon market activity for improved charcoal production by providing a strong basis for Measuring, Reporting and Verification (MRV). In particular, the SB provides strong and conservative assumptions with regard to the yield and carbon flows in the baseline production which project activities will build upon.	ProDoc: Output 2.3, 2.4.

3. Decentralized and unorganized nature of kilns: The charcoal kilns are widely distributed - how will these loosely organized units be encouraged to adopt the technologies proposed? How to enforce standards, regulations, policies, etc. on such unorganized units? What is the incentive for the charcoal kiln owners to shift to efficient kilns? How building capacity in decision-makers in the capital city would promote adoption of efficient kilns by these unorganized kilns?	a. Decentralized and unorganized nature of kilns: The charcoal kilns are widely distributed - how will these loosely organized units be encouraged to adopt the technologies proposed? This project will capitalize and strengthen the strong partnership that exists between the Charcoal Producers Association (with over 100 members), local Chiefdom and Forestry staff. As a start, the project will target community under the ICRAF and EU-REDD+ programmes to demonstrate the benefits and cost effectiveness of the efficient retort kiln. Study tours will be organized to visit successful demonstration and peer to peer training will be organized. New members will be recruited under the CPA. b. How to enforce standards, regulations, policies, etc. on such unorganized units? Capacity of the regulatory and enforcement staff at the FD will be enhanced. A strong MVE system to be designed under output 2.6 will help to enforce and monitor the standard and regulations. c. What is the incentive for the charcoal kiln owners to shift to efficient kilns? The main incentive will be improvements in income through reduce feedstock usage and higher conversion efficiency and better working environment through reduce emissions and pollutions. Furthermore, in partnership with BRAC (Bangladesh Rural Advancement Committee) and UNDP Social Business programme, matching rebate and loan guarantee scheme will be developed, tested and upgrade during project implementation to share out the risks. d. How building capacity in decision-makers in the capital city would promote adoption of efficient kilns by these unorganized kilns? Under Output 1.1, the capacity of the key decision makers will be enhanced to lead efforts, communicate and manage more efficient biomass production and utilization in an integrated manner. Cost benefit analysis will be conducted to generate buy in from lawmakers. This project will integrate the top down 'stick approach' with bottom up market based 'carrot' approach to get strong buy in from all value chain actors. This project will capitalize on the strong rapport between members of the Charcoal Producers Association and local authority and sensitized members to the new biomass business opportunity for generating private good.	ProDoc: Output 2.3
4. The project addresses critically important globally (and in Sierra Leone's case) issues of sustainable energy access for domestic use through promotion of EE production of charcoal and improved cookstoves. Although not the first, this is an important project for	The followings explain how international lessons learned are captured in the design of the project and further elaborated in the table below: a) holistic approach to household energy issues is necessary; The project is designed in a holistic way to note of the important interrelationship between the different components of the project – and the inter-linkages between the different interventions/phases of the charcoal value chain (whether funded by GEF or other stakeholders). Numerous studies have confirmed that the optimization of emission	ProDoc: Appendix C

global learning. Recent World Bank reviews of its projects aimed at improved domestic cooking and heating through fuelwood management or improved stoves (Ekouevi, Koffi and Voravate Tuntivate. 2012. Household Energy Access for Cooking and Heating: Lessons Learned and the Way Forward. Washington, D.C.: World Bank. DOI: 10.1596/978-0-8213-9604-9.) lists several important lessons of relevance to this project: a) holistic approach to household energy issues is necessary; (b) public awareness campaigns are prerequisites for successful interventions; (b) local participation is fundamental; (d) consumer fuel subsidies are not a good way of helping the poor; (e) both market-based and public support are relevant in the commercialization of improved stoves; (f) the needs and preferences of stoves users should be given priority; (g) durability of improved stoves is important for their successful dissemination; and (h) with microfinance, the poor can gradually afford an improved stove. In light of those lessons, the following issues should be strengthened/developed further during project preparation.	reduction benefits can only come from holistically addressing all parts of the charcoal value chain in an integrated manner; as one study notes: ***"No single intervention, implemented alone, will have a significant impact on reducing deforestation. Rather, measures must be implemented together and in a mutually supportive manner along the supply-demand chain if tangible results are to be achieved."*** In this way the project is following established best practices and is integrated with and complementing a series of interventions across the full charcoal value chain. The primary intervention areas for this project are stage 2 and 5. (b) public awareness campaigns are prerequisites for successful interventions; Once baseline data are gathered for cost benefit analysis, evidence-based awareness campaign will be launched to generate strong buy-in among policy and lawmakers, private investor and business service providers and CSO stakeholders and end users to make the biomass movement a viable and sustainable business. (c) local participation is fundamental; Local participation is embedded within the Participatory Technology Development approach to promote inclusive value chain participation and ownership in the design, production and dissemination of EE solutions that meet local needs. . (d) consumer fuel subsidies are not a good way of helping the poor; Instead of relying on fossil fuel subsidy, matching rebate and loan guarantee scheme are needed to help access to new production and utilization technology in a young and post-war economy to incentivize early movers and adopters and to share out perceived risks. (e) both market-based and public support are relevant in the commercialization of improved stoves; As explained above in (a), public support to create enabling environment to reduce technical, marketing, financial, supply and demand risks will go a long way to encourage private sector resources to invest in successful biomass value chain business. (f) the needs and preferences of stoves users should be given priority; As explained above in (c), using Participatory Tech Development to bring together all value chain actors through demand pull will avoid 'one size fit all' solution and avoid the 'top down' technology push that may not meet the need of the end users. (g) durability of improved stoves is important for their successful dissemination; and Appliance durability and user friendly with embedded after sales services for building long-term, trust-worthy, value chain partnership are critical to building successful long term business. The design and enforcement of the Standard, Certification and Label system will ensure that efficient kilns and stoves are produced and disseminated.	

	(h) With microfinance, the poor can gradually afford an improved stove. To overcome lack of access to competitive loans and microcredits and issue of affordability, various innovative MFI products and services with favourable repayments and interest will be developed under Output 1.2 to be tested, implemented, improve and upgraded under Output 2.3, 2.4 and 2.6.	
5. Project has an appropriate focus promoting PPP in the commercialization of ICS. Public funds are essential for R&D, marketing, quality control, training, certification, maintenance, along with monitoring and evaluation. These factors are mentioned in the proposal, with the exception of monitoring and evaluation. Effectiveness of project interventions should be monitored and lessons learned systematically recorded and reported. Certain funds should be allocated for measuring the effectiveness of project activities.	a) Measurable, Reportable and Verifiable (MRV) Plan This project is designed to utilize the GEF funding to provide public goods by developing policy de-risking instruments and enabling environment to stimulate and leverage private sector investment and resources via: coherent biomass policy supported with capable and coordinated institutions; develop Standard, Certification and Label program with R and D support to build investors and end user confidence and create demand through viable incentives and promotional materials and incentivized women groups. For project to be sustainable beyond the GEF project and to access future climate finance, the MRV plan is built into the scaling up programme in Output 2.3 and 2.4 to gather evidence for what works and how. b. Effectiveness of project interventions should be monitored and lessons learned systematically recorded. Furthermore, under Output 3.1, the cost effectiveness and sustainability of the project beyond the GEF project will be monitored using indicators as evidence to measure the impact of the intervention. Lessons learned will be developed as knowledge products to showcase the successful stories through site visits to demonstration sites. Furthermore, the Programme aims to generate critical information that can fill the global knowledge gaps on how to better link climate change mitigation and adaptation thrusts and how to make these actions work effectively to enhance the livelihoods of rural communities. c. Certain funds should be allocated for measuring the effectiveness of project activities. MRV is built into Output 2.3 and 2.4 as well as Output 2.6 under the phase out programme.	
6. Project proponents could consider embedding quasi-experimental project design into this (or similar) initiatives. STAP guidance in this respect could be useful (http://www.stapgef.org/experimental-project-designs). This would greatly help to generate empirical evidence	Using Randomised Complete Block Design with replications across 4 districts, this project offers two opportunities: i) to design the cost effectiveness of start-up grant as incentives to stimulate early movers to partake in the EE project and ii) to study the effect of standard and label on the uptake of EE stoves. These two experiments are explained in details under Appendix C. A GEF project includes a pilot component to offer SMEs matching rebate to purchase energy-efficient stoves in the industrial sector. In order to be able to design the 'optimal' program, the project do not just want to know if an incentive leads to reduce energy consumption. But also need to know	ProDoc: Appendix C.

for success of these interventions.	the incentive amount that is most cost-effective. This is described in more details in Annex C.	
7. During project implementation, particular focus should be given to groups demonstrating higher "affinity" to improved cooking stoves, and should become target groups for demonstrations to assure replicability in the longer-term.	This has been built into the project design to spur the latent Sierra Leonean and diaspora entrepreneurial spirit by identifying early movers and local champions who will be empowered with technical and business skills with access to competitive loans and credits for developing successful and viable business (Figure 3). These local champions and change agents will be organized into trade associations and formed part of the peer to peer training and networking system for ensuring that the tech developed are user friendly and receive continual improvement.	ProDoc: Appendix C
8. Project proponents are advised to explore the use of micro-financing schemes in supporting wider adoption of ICSs. The proposed "Money Box" initiative could be strengthened by adding/considering the use of microfinance as a part of development support for poor communities in their traditional activities. This could play a catalytic effect on the wider adoption of ICS.	IN partnership with MFIs such as BRAC and the UNDP Social Business Program, appropriate and competitive financial modality will be developed for the scaling up of ICS. Affordability by the poorer segment of the community remains a challenge especially where the opportunity cost for free wood collection is low. Proven Toyola 'money box' modality will be tried out and ICS will be promoted on the ground of improving health and reduce health costs and number of sick days. Means to improve income and affordability through productive use will be taken into account.	ProDoc: Output 1.3 and Appendix C

Measures for ensuring the sustainability of the project activities beyond the end of the project.		
Aspects	**Open Stoves**	**Improved Stoves proposed to be promoted under GEF**
Technological front	**a.** The open stoves were not as efficient as proposed improved stoves that range between 18-20%. **b.** The open stoves have no ability to regulate the combustion process and hence reduced efficiency	**a.** The proposed improved stove designs for cooking and stoves are based on the Kenyan Jiko technology customized to Sierra Leone. Other rocket and gasifier stoves will also be tested, adopted and developed. **b.** The proposed stove is not only smokeless but also has the provision to regulate the combustion processes rendering higher efficiency.
Implementation Modality	**a.** The traditional program often are not mainstreamed at the national level and died down due to lack of funding support. **b.** The market drives for the improved stoves are often limited due to freely available woodlots with low opportunity cost.	**a.** Considering the increased usage of fuel-wood mainly by the rural population and to provide alternative livelihood, it is intended to mainstream the fuel supply and utilization following strategies proposed in the ProDoc. **b.** Promotion of improved stoves will be a national program and will cover all 13 districts with their own production centers, that will also address policy, institutional, technology development & support, partnerships with local fabricators/technicians, community mobilization through Farmer Managed Agroforestry Groups under ICRAF and EU-REDD+,

		NGOs, UNDP's Social Business training program as well as awareness raising and knowledge management. **c.** Need for improved stoves have become more urgent as other alternative sources like LPG has not only become expensive but less available in the small Sierra Leonean market. People are also requiring traveling longer distances to get fuel wood and water.
Financing Modality	**a.** Traditional marketing strategy were supply driven and were provided for free. **b.** Sense of ownership was not inculcated into the mind set with poor overall buy in.	**a.** The use of graduated matching rebate and partial loan guarantee seeks to stimulate the nascent market to reach a tipping point by mitigating the initial supply and demand risks. ***b.*** Since the rebate is not given out 100% free, there will be a strong sense of ownership that will ensure the sustainability of the technology and benefits.
Capacity Building	**a.** Often the capacity development at the community level to operate and maintain the improved stoves is not in place. **b.** Local fabricators/distributors were not empowered nor engaged in the implementation of the program	**a.** The project plans to establish a capacity development mechanism through inclusive business training where the poor, youth and women will be empowered to participate as suppliers, producers, distributors or well-informed end users along the value chain across the country where learners are the residents of the communities. **b.** The project will work in partnership with the local fabricators and distributors.

ANNEX C: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS

A. EXPLAIN IF THE PPG OBJECTIVE HAS BEEN ACHIEVED THROUGH THE PPG ACTIVITIES UNDERTAKEN.

The PPG objective of formulating detailed Project Document has been achieved. The project formulation was done through consultations involving a range of stakeholders from the two main implementing ministries, namely, the Ministry of Energy (Division of Energy) and the Ministry of Agriculture, Forestry and Food Security and support agencies such as the Ministry of Land, Country Planning and Environment, Ministry of Local Government and Rural Development and donors like UNDP and development partners. Consultative activities were taken up through individual interviews with stakeholders and workshop (Problem/solution analysis and Log frame Workshop). A baseline study to assess the type of wood stoves used in rural households and institutions as well as an industries survey contributed to the project design with vital information on identification of a menu of improved stoves, GHG calculations and on identifying institutional arrangements, especially at the district and community level.

B. DESCRIBE FINDINGS THAT MIGHT AFFECT THE PROJECT DESIGN OR ANY CONCERNS ON PROJECT IMPLEMENTATION, IF ANY:

The following concerns were encountered during the project design and development:

- Concerns related to implementation capacity at local levels due to the lack of presence of relevant NGOs in all districts and limited capacity of district/sub-district administrations were discussed during the project formulation. Remoteness of settlements and poor road connectivity further added to this concern. However, in addition to existing structures of NGOs at district and sub-district levels, the DOE received positive feedback from the Women groups, BRAC and UNDP Social Business as a strong potential partner for stove distribution and efficient charcoal installation at the local level. In addition, the capacity of the Renewable Energy Division of the DOE is to be strengthened following a series of awareness raising by the EUEI-PDF workshops on the importance of biomass to be national economy.

- The DOE, expressed concerns about the social and cultural acceptability of improved stoves in relation to the roles of smoke and their user friendliness in the Sierra Leonean households. Taking into account the varying design needs for different cultural/ethnic backgrounds, it is critical that the role of smoke must be taken into account in the design and dissemination program. There is also concern on the affordability of the improved cook stove where there is low opportunity of wood collection.

C. PROVIDE DETAILED FUNDING AMOUNT OF THE PPG ACTIVITIES AND THEIR IMPLEMENTATION STATUS IN THE TABLE BELOW:

The activities achieved during PPG are shown in the table below:

Project Preparation Activities	*Implementation Status*	*GEF Amount ($)*				*Co-financing ($)*
		Amount Approved	*Amount Spent to date*	*Amount Committed*	*Uncommitted Amount**	
Collection and analysis of baseline data including comparative review of other countries under similar conditions and circumstances	Completed	22,000	22,000			22,000
Review of experiences in Sierra Leone and other countries of the following: - Application of biomass energy technologies for household use and productive use for income generation activities; - Domestic and artisanal production of energy efficient industrial furnaces/kilns, cook stoves and charcoal kilns including operations and performance (technical, economic, social data) - Farmers managed agroforestry biomass production and management, including the setting of sustainability criteria, safeguards and the certification of production - Area/community-based energy needs assessment and planning	Completed	10,000	10,000			10,000
Conduct a Logical Framework Analysis (LFA) to define project goal, objectives, outcomes, outputs and activities,	Completed	4,000	4,000			4,000

Project Preparation Activities	*Implementation Status*	*GEF Amount ($)*				*Co-financing ($)*
		Amount Approved	*Amount Spent to date*	*Amount Committed*	*Uncommitted Amount**	
including success indicators as well as delineation of responsibilities and coordination mechanisms						
Stakeholder engagement, capacity needs assessment of key local implementing partners and co-financing	Completed	3,000	3,000			3,000
Detailed design of project implementation plan	Completed	11,000	11,000			11,000
Preparation and finalization of the full-sized Project Document	Completed	0	0			
Total		**50,000**	**50,000**			**50,000**

*Any uncommitted amounts should be returned to the GEF Trust Fund. This is not a physical transfer of money, but achieved through reporting and netting out from disbursement request to Trustee. Please indicate expected date of refund transaction to Trustee. N/A

ANNEX D: CALENDAR OF EXPECTED REFLOWS

Provide a calendar of expected reflows to the GEF Trust Fund or to your Agency (and/or revolving fund that will be set up) – No financing schemes