



GLOBAL ENVIRONMENT FACILITY
INVESTING IN OUR PLANET

Naoko Ishii
CEO and Chairperson

March 19, 2018

Mr. Juergen Hierold
GEF Coordinator
United Nations Industrial Development
Organization
Vienna International Centre
P O Box 300
Vienna A-1400
Austria

Dear Mr. Hierold:

I am pleased to inform you that I have approved the medium-sized project detailed below:

Decision Sought:	Medium-sized Project (MSP) Approval
GEFSEC ID:	9495
Agency(ies):	UNIDO
Focal Area:	Climate Change
Project Type:	Medium-Sized Project
Country(ies):	Gambia
Name of Project:	Operationalization of the SE4All Action Agenda: Promoting Inclusive, Environmentally-sound and Low-carbon Development
Indicative GEF Project Grant:	\$1,781,484
Indicative Agency Fee:	\$169,241
Funding Source:	GEF Trust Fund

This approval is subject to the comments made by the GEF Secretariat in the attached document. It is also based on the understanding that the project is in conformity with GEF focal areas strategies and in line with GEF policies and procedures.

Sincerely,

Naoko Ishii
Chief Executive Officer and Chairperson

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



GEF-6 REQUEST FOR PROJECT ENDORSEMENT/APPROVAL

PROJECT TYPE: Medium-sized Project

TYPE OF TRUST FUND: GEF Trust Fund

For more information about GEF, visit TheGEF.org

PART I: PROJECT INFORMATION

Project Title: Operationalization of the SE4All Action Agenda: Promoting inclusive, environmentally-sound and low-carbon development			
Country(ies):	The Gambia	GEF Project ID: ¹	9495
GEF Agency(ies):	UNIDO	GEF Agency Project ID:	160041
Other Executing Partner(s):	National Environment Agency (NEA) Ministry of Petroleum and Energy (MoPE) The Gambia Standards Bureau (TGSB) ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE)	Submission date:	12/22/2017
		Re-submission date:	01/24/2018
GEF Focal Area (s):	Climate Change	Project Duration (Months)	36
Integrated Approach Pilot	IAP-Cities <input type="checkbox"/> IAP-Commodities <input type="checkbox"/> IAP-Food Security <input type="checkbox"/>	Corporate Program: SGP <input type="checkbox"/>	
Name of Parent Program	[if applicable]	Agency Fee (\$)	169,241

A. FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES²

Focal Area Objectives/Programs	Focal Area Outcomes	Trust Fund	(in \$)	
			GEF Project Financing	Co-financing
CCM-1 Program 1	Outcome A: Accelerated adoption of innovative technologies and management practices for GHG emission reduction and carbon sequestration	GEFTF	1,781,484	6,418,013
Total project costs			1,781,484	6,418,013

B. PROJECT DESCRIPTION SUMMARY

Project Objective: To operationalize the Sustainable Energy For All Action Agenda in The Gambia by catalyzing investment in improved cook stoves and energy efficient appliances						
Project Components/Programs	Financing Type ³	Project Outcomes	Project Outputs	Trust Fund	(in \$)	
					GEF Project Financing	Confirmed Co-financing
1. National platform to foster nexus issues	TA	1.1 Increased integration of energy issues into policies, programmes and projects into other sectors	1.1.1 National platform established and used on a regular basis to discuss and address the nexus between energy and policies, programmes and projects in other sectors 1.1.2 Policy recommendations around energy nexus issues are made	GEFTF	56,000	400,000
2. Promoting the use of energy efficient appliances	Inv	2.1. Increased use of efficient lights and other EE appliances	2.1.1. 62,000 LED bulbs adopted in public buildings, street lights, households and private sector	GEFTF	651,981	4,319,182

¹ Project ID number remains the same as the assigned PIF number.

² When completing Table A, refer to the excerpts on [GEF 6 Results Frameworks for GETF, LDCF and SCCF](#) and [CBIT programming directions](#).

³ Financing type can be either investment or technical assistance.

			<p>2.1.2. At least 1,030 other EE appliances are installed across the country</p> <p>2.1.3. Technical and marketing & distribution skills related to EE appliances are built and 20 practioners are trained</p> <p>2.1.4. Facilitating access to finance and other incentives for EE appliances dissemination on the supply and demand side</p>			
3. Promoting the production and use of efficient cook stoves and alternative cooking fuels	Inv	3.1 Increased production and use of efficient cook stoves and alternative cooking fuels	<p>3.1.1 17,000t of agro-waste promoted as clean cooking fuels</p> <p>3.1.2 Private companies and distributors as well as public and development institutions engaged in manufacturing and distribution of 5,000 ICS</p> <p>3.1.3 Technical and marketing & distribution skills related to clean cooking solutions are built and 20 practioners are trained</p> <p>3.1.4. Facilitating access to finance and other incentives for clean cooking solutions dissemination on the supply and demand side</p>	GEFTF	705,550	707,825
4. Quality assurance	TA	4.1 Increased national capacity to uptake energy efficient appliances and clean cooking solutions in compliance with quality standards	<p>4.1.1 National Quality Assurance Committee on EE Solutions established to develop performance labelling schemes for EE appliances and standards for clean cooking solutions</p> <p>4.1.2 Performance labelling scheme for EE appliances and standards for clean cooking operationalized</p>	GEFTF	144,000	337,550
5. Monitoring and	TA	5.1 Monitoring of	5.1.1 Initial	GEFTF	62,000	170,000

Evaluation		results and evaluation	environmental impact assessment carried out			
			5.1.2. Project progress monitored, documented and recommended actions formulated			
			5.1.3. Terminal evaluation carried out			
Subtotal					1,619,531	5,934,557
Project Management Cost (PMC) ⁴				GEFTF	161,953	483,456
Total project costs					1,781,484	6,418,013

C. CONFIRMED SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE

Please include evidence for co-financing for the project with this form.

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount (\$)
GEF Agency	UNIDO	Grants	45,000
GEF Agency	UNIDO	In-kind	200,550
Recipient Government	Ministry of Petroleum and Energy (MoPE)	In-kind	106,889.04
Recipient Government	Ministry of Petroleum and Energy (MoPE)	Grant	71,259.36
GEF Agency	FAO	In-kind	700,000
Utilities	NAWEC	In-kind	1,050,000
Private Sector	Africell	Equity	784,315
Private sector	Federation of Cashew Farmers Association	Equity	400,000
Private sector	Federation of Cashew Farmers Association	In-kind	10,000
Private Sector	Petrogas	In-kind	50,000
Private Sector	Balafon Company Limited	Equity	300,000
Others	ECREEE	In-kind	2,000,000
Others	ECREEE	Grants	200,000
Others	ECREEE	Loans/Equity	500,000
Total Co-financing			6,418,013

D. TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES), FOCAL AREA AND THE PROGRAMMING OF FUNDS

GEF Agency	Trust Fund	Country Name/Global	Focal Area	Programming of Funds	(in \$)		
					GEF Project Financing (a)	Agency Fee ^{a)} (b) ²	Total (c)=a+b
UNIDO	GEF TF	The Gambia	Climate Change	(select as applicable)	1,781,484	169,241	1,950,725
Total Grant Resources					1,781,484	169,241	1,950,725

a) Refer to the Fee Policy for GEF Partner Agencies

E. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS⁵

⁴ For GEF Project Financing up to \$2 million, PMC could be up to 10% of the subtotal; above \$2 million, PMC could be up to 5% of the subtotal.

PMC should be charged proportionately to focal areas based on focal area project financing amount in Table D below.

GEF6 CEO Endorsement /Approval Template-August2016

Provide the expected project targets as appropriate.

Corporate Results	Replenishment Targets	Project Targets
1. Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society	Improved management of landscapes and seascapes covering 300 million hectares	<i>hectares</i>
2. Sustainable land management in production systems (agriculture, rangelands, and forest landscapes)	120 million hectares under sustainable land management	<i>hectares</i>
3. Promotion of collective management of transboundary water systems and implementation of the full range of policy, legal, and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services	Water-food-ecosystems security and conjunctive management of surface and groundwater in at least 10 freshwater basins;	<i>Number of freshwater basins</i>
	20% of globally over-exploited fisheries (by volume) moved to more sustainable levels	<i>Percent of fisheries, by volume</i>
4. Support to transformational shifts towards a low-emission and resilient development path	750 million tons of CO _{2e} mitigated (include both direct and indirect)	<i>Direct 316,443 metric tons of CO_{2e}</i> <i>Indirect 1,265,774 metric tons of CO_{2e}</i>
5. Increase in phase-out, disposal and reduction of releases of POPs, ODS, mercury and other chemicals of global concern	Disposal of 80,000 tons of POPs (PCB, obsolete pesticides)	<i>metric tons</i>
	Reduction of 1000 tons of Mercury	<i>metric tons</i>
	Phase-out of 303.44 tons of ODP (HCFC)	<i>ODP tons</i>
6. Enhance capacity of countries to implement MEAs (multilateral environmental agreements) and mainstream into national and sub-national policy, planning financial and legal frameworks	Development and sectoral planning frameworks integrate measurable targets drawn from the MEAs in at least 10 countries	<i>Number of Countries:</i>
	Functional environmental information systems are established to support decision-making in at least 10 countries	<i>Number of Countries:</i>

F. DOES THE PROJECT INCLUDE A “NON-GRANT” INSTRUMENT? NO (Select)

(If non-grant instruments are used, provide an indicative calendar of expected reflows to your Agency and to the GEF/LDCF/SCCF/CBIT Trust Fund) in Annex D.

PART II: PROJECT JUSTIFICATION

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

Since the PIF was drafted, the political situation of the country changed significantly with the peaceful transition of power from President Yahya Jammeh, who stayed in power for 22 years, to a democratically elected President. This encouraging

⁵ Update the applicable indicators provided at PIF stage. Progress in programming against these targets for the projects per the Corporate Results Framework in the [GEF-6 Programming Directions](#), will be aggregated and reported during mid-term and at the conclusion of the replenishment period.

political scenario is expected to significantly attract foreign investment into the country be it from the private sector or development partners.

In addition based on the stakeholder consultations and additional data collected during the PPG phase, a few updates and changes have been made while developing the CEO Endorsement document even if the main structure and nature of the project remained the same. The table below describes the main changes between the approved PIF and the CEO Endorsement document.

Approved PIF	CEO Endorsement
Limited contextual and background information was provided	Complementary information related to the contextual and background information was incorporated and the provided figures were updated.
National platform to foster nexus issues	<p>The scope, activities, results, members, prerequisites, by-laws and financing aspects based on stakeholder consultative workshop and existing successful national platforms in The Gambia and other Economic Community of West African States (ECOWAS) countries were defined. Terms of references of the platform were developed (Annex G).</p> <p>The platform will also draw clear recommendations for policies on energy nexus issues based on the policy work done in GEF4 and GEF5 projects while supporting the uptake of energy efficient solutions and measures across The Gambia.</p>
Limited scope of targeted EE solutions compared to local needs	<p>The scope of targeted EE solutions (Component 2 on EE appliances and Component 3 on clean cooking solutions) has been broadened.</p> <ul style="list-style-type: none"> • EE appliances: <ul style="list-style-type: none"> ○ EE A/Cs and EE refrigerators as they are more commonly used than heat pump chillers e.g. in public buildings, private companies and households; ○ Solar water heaters especially for public services and the booming tourism sector. • Clean cooking: <ul style="list-style-type: none"> ○ The PIF version of the project focused on groundnut shell (waste) based briquettes as modern cooking fuel as stated in the SE4All IP CN2. However, due to affordability and availability issues of such briquettes, the ongoing fine tuning of EE cookstoves as well as commercial viability challenges of the business model so far, other modern cooking fuels and adapted improved cook stoves were added. These additions have proven track records especially in other Sub-Saharan African countries fostering South-South cooperation. For instance, cashew nut shell based biochar has been included as cashew nuts are not adapted for briquettes due to their dangerous fumes; ○ The PIF version only focused on Furno ES; however, other stoves which are more modern and better suited for The Gambian circumstances have been added. ○ Study tours and technology transfer through a South-South collaboration involving successful entrepreneurs in Nigeria, Sierra Leone, Ghana and Kenya as the markets for clean cook stoves have really matured in these countries. In them, local entrepreneurs have been able to produce at semi-industrial/industrial scale by mastering low-cost designs which could be suitable to The Gambians cooking needs (See Output 3.1.3) ○ In order to take into account resistance to change, it is been recommended to include the promotion of energy-efficient cook stoves using at least 50% less firewood or charcoal as part of a transition phase.
Limited scope of targeted sectors adopting EE solutions	<ul style="list-style-type: none"> • EE lighting: <ul style="list-style-type: none"> ○ Extended to street lighting leveraging an upcoming project financed by the World Bank/EIB/EU; ○ Extended to households, farmers and shops in addition to commercial

Approved PIF	CEO Endorsement
	<p>buildings.</p> <ul style="list-style-type: none"> • Nexus approach i.e. inclusion of agriculture and food processing as well gender and youth e.g. food processing units, community gardens, schools. • Energy-intensive private companies from other productive sectors that have started implementing some renewable energy and/or energy efficient measures and where the project could provide additional support. • Clean cooking for the productive and institutional sectors added e.g. fish smoking and school feeding leveraging existing Food and Agriculture Organization (FAO) projects.
Demonstration projects not yet indicated	Based on the stakeholder consultations and priorities set, potential demonstration projects have been identified. A clear evaluation process (incl. criteria and selection process) was developed and explained to all stakeholders in a transparent manner. In addition, a selection committee was formed with relevant stakeholders to decide which demonstration projects should be given priority. The selected projects are included in the project document.
No mention of custom tariff schemes for imported EE appliances (Component 2)	During the PPG phase, the Ministry of Trade, Industry and Employment (MoTIE) committed to adapt custom tariff schemes to EE solutions i.e. 0% tax for targeted energy efficient solutions. To do so MoTIE requires MoPE to take the lead to include the missing EE technologies into the 2010 Gambia Investment & Export Promotion Act (GIPA).
Focused on CFL for EE Lighting	In the PIF, only Compact Fluorescent Lamps (CFLs) were mentioned. Nevertheless, since CFLs contain mercury and The Gambia committed to phase out technologies containing mercury under the Minamata Convention, the CEO Endorsement will focus on Light-Emitting Diode (LED) lighting. In addition, the collection of used incandescent and LED light bulbs to be recycled was also added.
Quality assurance scope limited to a few targeted EE solutions	In order to ensure the uptake of all the targeted EE solutions, quality assurance and capacity building should be undertaken across the board. Specific capacity-building efforts were reallocated to the specific EE solutions i.e. respectively Component 2 (EE appliances), Component 3 (clean cooking solutions), and Component 4 (certification of installers). Hence component 4 was renamed to focus solely on quality assurance.
Overestimation of improved cook stoves (ICS) to be disseminated	Based on experience, similar programmes and local realities, the number of EE cook stoves to be disseminated during the project duration has been reduced to a total of 5,000 incl. household and institutional/commercial cook stoves.
Limited quality assurance and quality control activities and actors	<p>It is necessary to build hard and soft capacities of the The Gambia Standards Bureau (TGSB) and other relevant stakeholders to reach the targets under Component 4.</p> <ul style="list-style-type: none"> • On the hard side: a testing laboratory is required to allow the TGSB to fully implement developed standard on EE solutions. So far, testing is done by partnering laboratories abroad in Senegal and Europe. • On the soft side: training should be provided on: <ul style="list-style-type: none"> ○ quality assurance of all targeted EE solutions; ○ testing capacities e.g. relevant testing protocols; ○ certification for installers; ○ other relevant stakeholders (i.e. certification agents, Gambia Public Utilities Regulatory Authority (PURA), private sector, etc.)
Limited capacity building and awareness raising efforts	<p>Targeted capacity building and awareness raising campaigns by specific stakeholders are proposed for better understanding, adoption and dissemination of EE solutions.</p> <p>Synergies in terms of awareness raising undertaken by other partners (PURA, National Water and Electricity Company (NAWEC), etc.) have been identified. A mix of communication means – TV, radio, social media, printed media as well as a large SMS campaign with the telecom operator Africell will ensure that at least 70% of the Gambian population is sensitized on EE solutions and measures.</p>

Approved PIF	CEO Endorsement
Limited description of component 5 on monitoring & evaluation	<p>The M&E component is further detailed and encompasses 3 outputs instead of one originally in the PIF, namely:</p> <ul style="list-style-type: none"> • 5.1.1. Initial environmental impact assessment carried out • 5.1.2. Project progress monitored, documented and recommended actions formulated • 5.1.3. Terminal evaluation carried out
The GHG emission reductions were estimated to be 160,000 tCO₂e	<p>During the PPG phase based on the additional EE solutions and the revision of the number of ICS targeted based on similar programmes and local realities to 5,000 ICS, the GHG emission reductions were increased to 316,443 tCO₂e excluding GHG emissions from the 1,000 EE ACs and refrigerators and solar water heaters (as the technologies are multiple and with a large range of impact on GHG emissions).</p>

The following table compares the project framework and budget of the PIF and CEO endorsement. The changes in the framework are due to the new information compiled and analyzed during the PPG phase especially during the various stakeholder consultations.

Project Components		Project Outcomes		Project Outputs		GEF Funding (USD)		Co-financing (USD)	
PIF	CEO	PIF	CEO	PIF	CEO	PIF	CEO	PIF	CEO
1. National platform to foster nexus issues	1. National platform to foster nexus issues	1.1 Increased integration of energy issues into policies, programmes and projects into other sectors	1.1 Increased integration of energy issues into policies, programmes and projects into other sectors	1.1.1 National platform established to discuss and address the nexus between energy and policies, programmes and projects in other sectors like health, education, agriculture and meets on a regular basis	1.1.1 National platform established and used on a regular basis to discuss and address the nexus between energy and policies, programmes and projects in other sectors 1.1.2 Policy recommendations around energy nexus issues are made	56,000	56,000	150,000	400,000
2. Promoting the use of efficient appliances in line with SE4All investment prospectus (IP) of The Gambia	2. Promoting the use of energy efficient appliances	2.1 Increased use of efficient lights and refrigeration appliances	2.1. Increased use of efficient lights and other EE appliances	2.1.1 2,000 certified efficient lamps in public buildings installed 2.1.2 Private sector companies, distributors and traders engaged in dissemination of 60,000 certified efficient lamps across different sectors on a commercial basis 2.1.310 efficient heat pump chillers for small scale beverage and food processing industries installed	2.1.1. 62,000 LED bulbs adopted in public buildings, street lights, households and private sector 2.1.2. At least 1,030 other EE appliances are installed across the country 2.1.3. Technical and marketing & distribution skills related to EE appliances are built and 20 practioners are trained 2.1.4. Facilitating access to finance and other incentives for EE appliances dissemination on the supply and demand side	643,981	651,981	1,640,000	4,319,182
3. Promoting	3. Promoting	3.1 Increased	3.1 Increased	3.1.1 17,000 tons of	3.1.1	697,550	705,550	2,032,550	707,825

Project Components		Project Outcomes		Project Outputs		GEF Funding (USD)		Co-financing (USD)	
PIF	CEO	PIF	CEO	PIF	CEO	PIF	CEO	PIF	CEO
the use of efficient cook stoves and use of briquettes in line with SE4ALL investment prospectus of The Gambia	the production and use of efficient cook stoves and alternative cooking fuels	production and use of efficient cook stoves combined with enhanced capacity for production of briquettes from agro-processing waste	production and use of efficient cook stoves and alternative cooking fuels	agro-waste (especially groundnut shells) based briquettes produced annually 3.1.2. Private companies, distributors and financial institutions engaged in manufacturing, distribution and financing the dissemination of 5,000 efficient cook stoves (Furno EES) that use briquettes	17,000t of agro-waste promoted as clean cooking fuels 3.1.2 Private companies and distributors as well as public and development institutions engaged in manufacturing and distribution of 5,000 ICS 3.1.3 Technical and marketing & distribution skills related to clean cooking solutions are built and 20 practitioners are trained 3.1.4. Facilitating access to finance and other incentives for clean cooking solutions dissemination on the supply and demand side				
4. Quality assurance and enhancing capacities for market players and enablers	4. Quality assurance	4.1 Increased capacity for uptake of efficient appliances and cook stoves and their compliance with	4.1 Increased national capacity to uptake energy efficient appliances and clean cooking solutions in compliance	4.1.1 Performance labelling scheme introduced for selected appliances and standards introduced for efficient cook stoves and briquettes, with training provided to 10 members of the Gambia Standards	4.1.1 National Quality Assurance Committee on EE Solutions established to develop performance labelling schemes for EE appliances and standards for clean cooking solutions	148,000	144,000	350,000	337,550

Project Components		Project Outcomes		Project Outputs		GEF Funding (USD)		Co-financing (USD)	
PIF	CEO	PIF	CEO	PIF	CEO	PIF	CEO	PIF	CEO
		standards	with quality standards	Bureau to implement these standards 4.1.2 Over 40 practitioners trained on sustainable briquetting practices and manufacture and distribution of efficient cook stoves in compliance with certification standards	4.1.2 Performance labelling scheme for EE appliances and standards for clean cooking operationalized				
5. Monitoring and Evaluation	5. Monitoring and Evaluation	5.1 Monitoring results and evaluation	5.1 Monitoring of results and evaluation	5.1.1 Project effectively monitored, mid-term review and independent terminal evaluation conducted	5.1.1 Initial environmental impact assessment carried out 5.1.2. Project progress monitored, documented and recommended actions formulated 5.1.3. Terminal evaluation carried out	74,000	62,000	200,000	170,000
Subtotal						1,619,531	1,619,531	4,372,500	5,934,557
Project Management Cost (PMC)						161,953	161,953	315,000	483,456
Total Project Costs						1,781,484	1,781,484	4,687,550	6,418,013

1. Global environmental and/or adaptation problems, root causes and barriers that need to be addressed

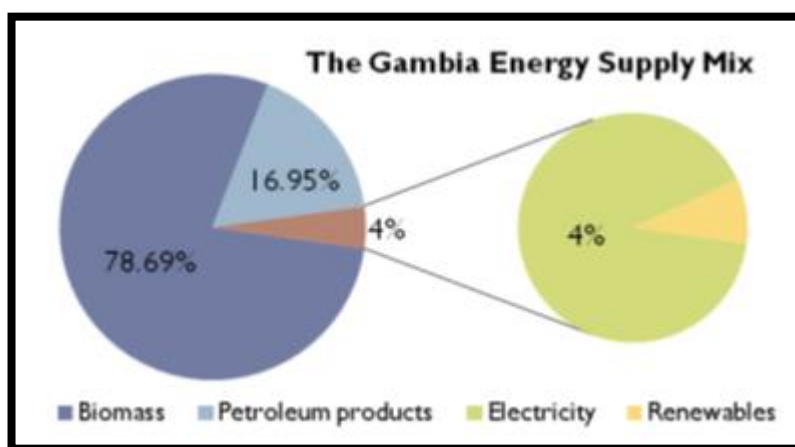
In order to reach SDG 7 to ensure access to affordable, reliable sustainable and modern energy for all, energy efficiency (EE) can be a powerful lever in terms of price (cheaper in terms of demand and supply through avoided investments in infrastructures), time (faster), scale (cross-sectorial) and GHG emissions (reduced significantly). While global energy intensity has improved by 1.8% in 2015, it is not sufficient to reach the SDG goals whereby an average annual global energy intensity decline of 2.6% between 2016-2030 is needed. According to the Energy Efficiency Market Report 2016 carried out by the International Energy Agency (IEA), 70% of the world's energy use occurs outside of EE requirements even though over the past 30 years, the implementation of energy efficiency standards and technologies accounted for most of the decrease in energy use per unit of GDP in OECD countries.

Besides, nearly three billion people around the world burn wood, charcoal, animal dung, crop residue or coal in open fires or in inefficient stoves for daily cooking and heating. This reliance on inefficient cook stoves and fuels leads to a wide variety of environmental problems including environmental degradation, air pollution, and climate change. In fact, black carbon, which results from incomplete combustion, is estimated to contribute the equivalent of 25 to 50% of carbon dioxide warming globally, and residential solid fuel burning accounts for up to 25% of global black carbon emissions, about 84% of which is from households in developing countries.

Country context and background

Energy demand and supply

In 2016, biomass –including fuel wood– accounted for almost 80% of The Gambia's energy supply and more than 90% of household energy consumption, while petroleum products –including liquefied petroleum gas (LPG) for cooking; diesel and heavy fuel oil for generating electricity– accounted for 16% and electricity⁶ for about 4% of the energy supply. In addition, at least 60% of the population does not have access to electricity and the country depends on diverse fuel sources, of which the use of biomass primarily for cooking and petroleum products has the strongest link to climate change.

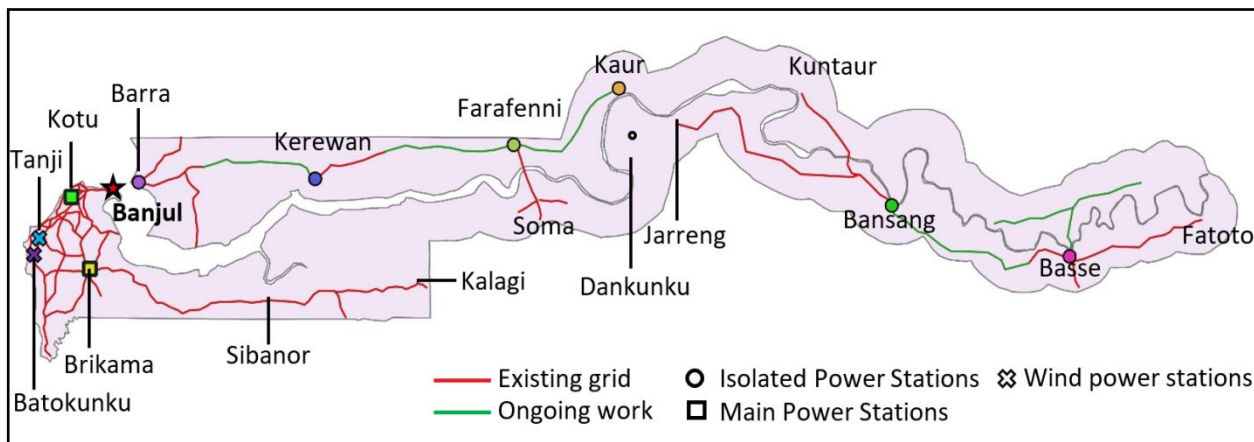


As shown in the figure below, The Gambia does not have a single grid but several mini-grids that serve various parts of the country. With very few industries operating in the country, the main drivers of electricity demand on the grids are lighting, personal entertainment, refrigeration and cooling units⁷. It has long been recognized that electricity grids in the country have very high losses and that the use of electricity across the various sectors is largely not efficient. The recent

⁶ http://www.irena.org/DocumentDownloads/Publications/RRA_Gambia.pdf

⁷ http://www.se4all.org/sites/default/files/Gambia_RAGA_EN_Released.pdf

plans to expand the national grid to areas that are currently not serviced and the overall efforts to connect the existing mini-grids in The Gambia raise the question whether the benefits of such endeavors will be fully realized if the equipment, infrastructure and appliances on the demand side remain inefficient draining away the benefits of increased generation. As such, there is a pressing need to motivate the general public to increasingly use energy efficient products in these categories. These efforts could be initially catalyzed by concerted government initiatives to adopt efficient appliances in public places to demonstrate the benefits and then raise awareness and incentives for the general public to adopt similar technologies and measures on a commercial basis.



Schematic of the NAWEC network

As in most ECOWAS countries, analysis of household energy demand and supply growth in The Gambia show that demand for firewood and charcoal is outstripping supply, driving rapid deforestation and concomitant environmental challenges. Dependence on fuel wood for cooking also causes smoke-related health problems, particularly among women and children given their roles in households (ECREEE, 2015). The Gambia's energy demand growth is characterized by rapid increase in the use of charcoal and firewood due to increasing population and cooking needs. It was recognized, however, that deforestation cannot only be attributed to cooking since land clearing for agriculture, urbanization and high-demand for wood and charcoal also contribute to forest cutting. According to National Forest Assessment (NFA 2010), The Gambia had a total forest area of 423,000 ha in 2010 as compared to 520,400 ha in 1998 representing a reduction of forest cover of approximately 97,000 ha including some protected areas. Therefore, the wood is being removed from the country's forests at an alarming rate.

Biomass resources

In terms of forest development in hectares, the following results were recorded for woodland: from 14,000 ha in 1980 to 12,000 ha in 1993 showing that woodland has significantly been reduced within a short time frame. Though the country is rather small in size with an estimated area of 11,000 km², The Gambia has major biomass energy resources with a total forest cover of 43%, estimated at 505,300 ha including the mangrove forests. The forest cover of The Gambia is classified as closed Guinea and Sudano-savannah, which confers the country considerable standing biomass including plantation forests. Additionally, agriculture residues from rice, peanuts, cashew nut shells and waste from livestock (animal dung and poultry waste) also provide a considerable amount of biomass. However, this potential is largely unutilized due to various barriers in the supply chain for cook stoves and alternative cooking fuels. Moreover, 90% of the Gambian population –1.9 million people– use firewood and charcoal as their main cooking fuels placing a heavy burden on the biomass resources of the country. The high consumption of biomass fuels by urban and rural populations has been deemed unsustainable by both the FAO and the ECOWAS Center for Renewable Energy and Energy Efficiency (ECREEE). Besides, the pervasive use of firewood and charcoal greatly contributes to deforestation which is one of the main drivers of climate change. Even though The Gambia passed a law in 1982 to ban charcoal production, its enforcement has been limited mainly due to the lack of other affordable fuel options. Hence, charcoal is still broadly used and is illegally produced in The Gambia or imported from neighboring Senegal. On the biomass supply side, there has been no commensurate increase in quality of supply options at the national level although some forestation projects have recorded success at local levels.

Energy use in productive activities

As agriculture and fishing are two of the main productive activities in The Gambia which employ the majority of the rural population, they play a major role in the heavy reliance of The Gambia on biomass and other conventional fuels - mainly diesel. Due to the inability of NAWEC to provide affordable and reliable electricity, the majority of the industrial and semi-industrial processing units of agricultural products rely heavily on the diesel powered generators to run their equipment resulting in adverse environmental impacts and negative balance sheets due to foreign exchange rates and fluctuating oil prices. At the micro-level, these small-scale farmers and SMEs spend a considerable amount of their income on diesel, which negatively affects their profitability as well as the environment. Additionally, a large portion of the agro-processing industries rely on firewood and charcoal for their operations as the utilization of modern energy sources for productive uses in agricultural activities such as bakeries, fisheries, etc. remains very limited or non-existent. Paradoxically, even the so-called improved cook stoves producers still consume large quantities of wood fuels to produce/dry ceramic liners. This preference is rooted in the following: wood fuel is the cheapest energy source; the cultural belief that fuel wood produces better quality/better taste food; and lack of awareness for alternative energy solutions. Also, the initial capital investment is a barrier to switching to alternative energy efficient technologies.

Political Situation in The Gambia

The political situation of The Gambia has drastically changed as of December 2016, with the democratic election of current president after decades of dictatorship under a military regime. This change in the political environment has ultimately made The Gambia a country where trade and other day-to-day activities can occur now without unexpected political interference. With the support of major institutions like the World Bank, the IMF and the EU, The Gambia is embarking on a series of economic and fiscal reforms in order to jumpstart the economy as it maneuvers for the new era of democracy. Ambitious policy reforms are expected in order to curb the inflation and create new jobs; including the energy sector which is getting a lot of interest from development partners. Ultimately, these interventions will consolidate political, economic and social stability of the new Gambia.

Financial Sector Context

Recently, The Gambia has made significant strides towards macroeconomic stability and sustained growth even though the economy remains undiversified. Currently, the agricultural sector is still the biggest employer with close to 70% of the workforce but accounting for only 25% of GDP, while services account for more than 60% of GDP. In particular, tourism is a key contributor to the economy and remains a major source of foreign exchange despite a recent slowdown.

The financial system remains small but rather sound with at least 13 commercial banks and 11 insurance companies. However, the sector continues to be largely dominated by the commercial banks, the majority of which are foreign-owned. It must be noted that the majority of the commercial banks operate mainly within the Greater Banjul area with limited presence in other parts of the country which are mainly served by micro-finance institutions. The microfinance sector has experienced significant growth in the past few years with more than 60 institutions classified under several categories including Fiduciary Financial Institutions, Rural Finance Bureaus, Community Finance Bureaus, Micro Savings and Credit Bureaus and the Savings and Credit Associations. Village Savings and Credit Associations (VISACAs) and microfinance institutions (MFIs) reached about 82% of households. However, outstanding loans remain limited, representing less than 6.7% of the volume of loans from commercial banks. The sector remains largely unregulated, although the Central Bank has recently established prudential guidelines that aim at reducing barriers to the entry of new non-bank institutions into the sector.

Institutional Commitment

At the institutional level, there is a strong commitment as shown by the following past and ongoing efforts:

- Within the UNIDO/GEF 4 project entitled “Promoting Renewable Energy based Mini-grids for productive uses in rural areas of The Gambia”, currently under implementation, a Renewable Energy Law was developed followed by the formal adoption of a Renewable Energy Act in 2013⁸

⁸ Renewable Energy Act, 2013, ISSN 0796 – 0298

- In 2014, The Government of The Gambia was the first country in Africa to adopt its SE4All Action Agenda together with an Investment Prospectus (IP)⁹ for achieving SE4All goals by 2030;
- Within the West Africa Clean Cooking Alliance (WACCA)¹⁰ initiated by ECREEE, The Gambia is finalizing its National Cooking Energy Action Plan to address biomass supply, standards for improved cooking stoves and awareness raising on improved cooking stoves are highlighted.
- Within the ECOWAS Gender Mainstreaming Policy, The Gambia through the MoPE is playing a leadership role.

Central challenges to the achievement of change as envisaged in the aforementioned institutional efforts and documents include: (1) the disjointed approaches to the development of policies, programmes and projects in the energy sector and other sectors such as education, health, agriculture etc.; (2) the need for a business approach to the dissemination of renewable energy technologies and efficient appliances; and (3) lack of capacities of key market enablers and players to support the operationalization of these policies, programmes and projects. In discussions with various Ministries, there is convergence on the need for the urgent operationalization of the following priority projects identified in the SE4All IP: (1) Promote market-based distribution as well as adoption of efficient appliances and reform the market of light bulbs and domestic appliances in order to reduce the load on the grid; (2) Promote market-based adoption of efficient cooking devices.

Recently, various attempts were made to raise awareness on the importance of switching to more efficient cook stoves and household appliances; however, a nationally-driven and anchored process to promote market-based deployment of these technologies is still lacking. Overall, there has not been a concerted effort to promote holistic and integrated approaches in solving the energy nexus with broader related development challenges that the country faces. As an example, the rapidly increasing demand for firewood and charcoal for cooking is causing unsustainable harvesting of forest resources. Yet, the development of policies, programmes and projects in the energy sector tend not to take into consideration potential implications of deforestation and other environmental issues. Similarly, policies and programmes on issues like health, water, education etc. have a tendency to overlook that energy is central to achieving the objectives in such areas. This disconnection in approaches applies to almost all sectors.

To date, The Gambia has demonstrated its willingness to address energy access related issues at the sector-specific level. However, a holistic approach where energy and other issues are collectively addressed is lacking in order to galvanize actions by different stakeholders at a larger scale and to have a higher transformational impact on the ground. Therefore, a platform has been envisaged where stakeholders can increase their awareness of the nexus between energy and various environmental and developmental aspects, as well as to promote a greater shift towards integrated policies, programmes and projects. It is equally important to create conditions that support a market-based uptake of more efficient cook stoves and efficient appliances across the different sectors in The Gambia. These markets, once properly set-up and operationalized with appropriate business models involving all stakeholders –including the national government, financial institutions, and consumers– will ensure the sustainability and replication potential of the interventions under this project.

Specific barriers to be addressed by the project

The selected interventions under this project will address a number of sector specific as well as cross-sectorial barriers that include:

a) Disjointed approaches between activities in the energy sector and other sectors

Like in most developing countries, energy access in The Gambia is still very central to most of the developmental challenges that the country is facing. To begin with, energy planning has over the years only focused on commercial

⁹ SE4All Action Agenda for The Gambia & The Gambia SE4All Investment Prospectus;

¹⁰ http://www.se4all.org/sites/default/files/Gambia_AA_EN_Released.pdf

energy forms with not much attention paid to biomass for cooking purposes, yet the majority of the population, both in urban and rural areas still cook with traditional biomass. In addition, the development and implementation of policies, programmes and projects in other sectors like education, health, agriculture etc. do not consider the role of energy in these sectors. Accordingly, energy is normally an after-thought compromising the success and effectiveness of the initiatives. As an example, recent efforts to increase access to health care services in rural areas resulted in the construction of clinics in many rural areas. However, these clinics have no access to energy which hampers health services delivery since medication and vaccinations cannot be properly stored under refrigerated conditions. Furthermore, emergency services cannot be provided at night as there is no basic lighting. Energy access through the use of renewable energy sources could have been easily integrated into the programme to build clinics at project design without significant budget implications. As such, there is a need to promote the systematic integration of sustainable energy solutions into policies, programmes and projects in other sectors that include health, education, agriculture etc. To do so, a platform will be established to serve as a forum where key stakeholders of different sectors can discuss nexus issues between energy and other sectors, allowing the promotion of a nexus approach.

b) The absence of regulation on the importation and dissemination of inefficient appliances

For the importation of goods and products in the country, The Gambia 2011 Trade Policy only makes a distinction between prohibited goods and accepted goods. The goods that are accepted to enter the country do not face any regulation in terms of year of manufacture, performance or number of years in usage before importation. Consequently, a lot of inefficient and second-hand appliances are imported and used across all sectors increasing the pressure on the grid and higher costs of production. In 2014, The Gambia adopted a Consumer Protection Act; however, this does not cover the requirements in terms of energy intensity of appliances. As such, the authorities recognize that the lack of domestic standards (aside from SPS standards) impedes their ability to respond to domestic concerns regarding consumer safety in a predictable manner and constrains The Gambia's ability to develop competitive products and services.

c) The absence of performance labelling scheme on appliances

In The Gambia, specific regulations on labelling and package marking do not exist, however, the following does apply: (1) The net weight must be shown in labeled canned goods and food stuffs; (2) The importation of goods with fraudulent or misleading marks or labels is prohibited; (3) Any common shipping practice may be followed in the absence of regulations regarding how shipments must be marked. In addition, regulations on packing provide that goods should be packed securely to withstand rough handling. Goods adversely affected by the tropical heat should be packed to withstand the hot and humid climate. The import of certain specific goods is prohibited from all sources, predominately on social, health, security and moral grounds. All other imports are permitted freely under open general license.¹¹

Accordingly, consumers in The Gambia cannot make a decision on any products on the grounds of its energy performance since such labelling is not a requirement. This results in appliances with very poor energy ratings being introduced in The Gambian markets while consuming high amounts of energy. Therefore, the project will introduce a performance labelling scheme for appliances commonly used and for cook stoves, while also building institutional capacity to enforce these standards nation-wide.

d) Lack of appropriate financial mechanisms to support the wide-scale distribution and adoption of EE technologies

A market-driven intervention to scale-up the use of EE technologies needs to be fully-embedded in a nationwide financial support strategy. During the PPG phase, it was discovered that most of the staff in commercial banks in The Gambia are not equipped to fully analyze and provide financial services to energy projects. Moreover, as in most ECOWAS countries, commercial banks seem to favor lending to public institutions rather than the private sector. As such, catered financial services for both supply and demand are necessary to fully unlock the potential of the energy efficiency market in The Gambia. There have already been some attempts to provide financing for RE/EE related projects in The Gambia including the Women and Youth Entrepreneurship Fund under UNIDO/GEF 5 project which is managed by PURA and Eco bank's financial services to specific target groups within two separate projects with other

¹¹ <http://www.shipmyfreight.net/gambia/regulations.htm>

development organizations. Currently, the main barriers preventing access to loan for enterprises and consumers are the high interest rates, reimbursement timelines and guarantee requirements.

- e) The limited capacity of private investors and users in identifying and tapping into opportunities that support the switch to more efficient appliances and cooking devices.

The promotion of energy efficient appliances and improved cook stoves has so far been initiated by government agencies through specific and time-bound campaigns. Most of these campaigns have focused on distributing a specific number of appliances to specific villages or areas and the involvement of the private sector has been viewed as peripheral or limited to equipment suppliers for such campaigns. As such, the private sector has not developed the requisite capacities nor the financial tools and mechanisms that would enable it to expand its services and reach in the sector. Similarly, there has not been a sustained awareness raising among the population to learn about the benefits of adopting efficient appliances and using improved cook stoves.

2. Baseline scenario and associated baseline projects

2.1 Baseline scenario and policies

The key stakeholders of the Gambian electricity sector are National Water and Electricity Utility (NAWEC), the Public Utilities Regulatory Authority (PURA), the Ministry of Petroleum and Energy (MoPE), and the Ministry of Finance and Economic Affairs (MoFEA). Electricity, water, and sewerage services in The Gambia are provided by NAWEC, a vertically integrated public utility that handles generation, transmission, and distribution of electricity, as well as water production and distribution, and sewerage. The MoPE is responsible for the implementation of Government policy in relation to electricity supply and distribution and renewable energy. PURA was established in 2001 and conducts tariff reviews and recommends tariff adjustments to the MoFEA, which evaluates the financial implications and provides advice to the president for final decisions.

The policy and regulatory framework of the energy sector in The Gambia continues to be dynamic with periodic changes in both policy, administration and the promulgation of new legislation. Overall, the legislative and regulatory frameworks for renewable energy and energy efficiency are still in its infancy in the country and further development is required specially to encourage private-sector involvement and investment. In addition, the necessity for further capacity-building in technical and government institutions has been identified.

One of the key documents in the energy sector is the first National Energy Policy 2005 -2012 which long-term aim is to maximize efficient development and utilization of scarce energy resources to support economic development in an environmentally friendly way. The overall objectives are to improve and expand energy systems through private sector partnership while strengthening institutional and human resource capacity, and enhance research and development (R&D). Besides, it further promotes private sector participation in the electricity sector, and also sets out a framework for the licensing of private generation, transmission and distribution operators. In addition, a tariff approval model and set of guidelines were created. Regarding the RE subsector, it (i) promotes renewable energy such as solar, wind and biomass, (ii) develops a domestic production capacity from RE fuels and technologies, and (iii) ensures the sustainable supply of RE fuels and technologies at competitive prices through private sector participation. As for the EE sub sector, it mentions the need to promote EE while preserving the natural forest cover. Besides, it proposes new legislation on the efficient use of energy in buildings, industry, agriculture and appliances as well as the promotion of modern biomass (bioenergy, groundnut shell and sawdust briquettes and bagasse) to prevent misuse and reduce energy costs.

The main regulatory framework for RE in The Gambia is the RE Act (2013). The law marks a major step by the Government of The Gambia to promote RE in the country. Specifically, the law creates the RE Fund to facilitate investments in RE. Other key issues the law addresses is standards in the RE sector for both equipment and also for installers. There is a legal requirement for each installer to guarantee all installation for a minimum of one year. On the issue of investment, the law provides for far reaching incentives such as a 25 years tax exemption for VAT and corporate tax. Building on the RE Act, the government adopted a second National Energy Policy [NEP] 2014 – 2018

and in 2016 the National Renewable Energy Action Plan, the National Energy Efficiency Action Plan and the SE4ALL Action Agenda.

In fact, this particular project is based on the SE4All Action Agenda and the validated National Energy Efficiency Action Plan (NEEAP) which set EE targets in the biomass sub-sector – respectively 100% use of improved fuels, 100% use of ICS and 100% sustainable production of biomass-based fuels by 2030; as well as in the electricity sub-sector via a gradual phasing-out of incandescent bulbs from 2016 onwards, energy savings of 15% in the building sector and the reduction of technical losses to 10% by 2030. Measures to achieve the EE targets have been identified for:

- Efficient lighting
 - Introduction of EE light bulbs
 - Adoption of Minimum Energy Performance Standards (MEPS) both for on-grid and off-grid lighting devices
 - Establishment of a monitoring, verification and enforcement of the MEPS
- Reduction of electricity consumption at user point
 - EE electrical appliances through labeling
 - Thermal regulation for building
 - Solar water heaters
 - Solar protection of windows
- Improvement of EE
 - Mandatory labeling of energy appliances
 - Variable VAT discriminating based on performance standards
 - Public awareness raising on EE appliances
- Regulation of the use of RE technologies and promotion of local manufacturing
 - Quality standards for solar water heaters
 - Legislation obliging minimums of RE in new and newly refurbished buildings
- Restriction of import and use of energy intense electrical appliances
 - Regulation restricting import of used fridges and ACs
 - Incentives to companies importing new and low energy consumption appliances (RACs)
 - Comprehensive Public Lighting Policy (EE lamps, RE, and luminance standards)
- Reduction of electricity grid losses
 - Comprehensive study on network losses
 - Power factor improvement project reducing reactive power
 - Standards maintenance and enforcement for distribution lines and circuits
- Promotion of energy conservation in the transport sector
 - Information system on the number of vehicles in the country and consumption patterns
 - Tax breaks and incentives for low consumption vehicles, new vehicles and increasing taxes on older and higher fuel consumption vehicles
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In this regard, the Government of The Gambia is strongly committed to support the Sustainable Energy for All (SE4All) objectives as evidenced by the adoption of the RE Law and the fact that the country was the first to develop the SE4All Action Plan and IP. However, the Government commitments have not been fully translated into operational and tangible programmes and projects. In particular, the role of the private sector in energy services supply linked to the implementation of priority investment projects in the SE4All IP has remained minimal. In fact, the SE4All agenda is viewed largely as a Government focused campaign, yet the fundamental principles of SE4All requires galvanizing private sector interest in the attainment of its objectives. The SE4All Action Agenda will only be realized if functional and effective business models are in place bringing together market enablers and players in promoting market-based dissemination of RE/EE technologies.

The business as usual scenario would see the persistence of the aforementioned barriers and challenges including:

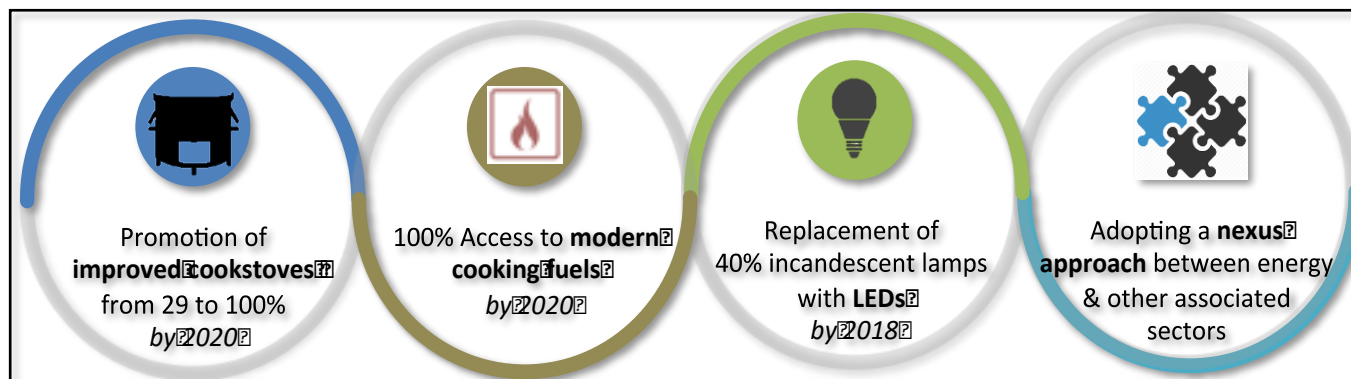
- Inadequate policy and regulatory framework that prevents private sector involvement and favors fragmented grants-funded NGO-type interventions;

- Disconnection between energy and other sectors so projects would still be implemented outside of the energy scope when energy could play a major role in their success;
- Limited awareness on EE solutions among general public and potential users;
- Major capacity gaps among market players and enablers from government agencies to private sector actors;
- Continued reliance on inefficient appliances, fossil fuels (e.g. diesel generators), wood fuel and charcoal;
- Increased pollution of underground water, water bodies, soil and air through inappropriate use and disposal of agricultural waste; and
- Lack of appropriate financial mechanisms to support the commercial uptake of EE solutions.

Without a deliberate intervention to encourage a holistic approach where the nexus between energy and other sectors is clearly recognized, projects, policies and programmes in these areas will continue to have fragmented results minimizing the impact and replication potential. In addition, such a fragmented approach will create a situation where efforts to address challenges in the energy sector would have negative consequences in other environmental concerns.

In line with its commitment to meet the objectives of the Sustainable Energy for All (SE4All) by 2030, the Government of The Gambia was the first country in Africa to develop and adopt a SE4All Action Agenda, together with a SE4All IP¹². These two documents seek to catalyze greater collaboration amongst all stakeholders in supporting specific projects and actions that would contribute to the achievement of SE4All targets. In particular, the IP highlights priority investment projects that the country needs to support and high impact opportunities to tap into. The IP prioritizes a number of high impact projects including the following:

- Promoting the use of improved cook stoves from the current 29% to 100% by 2020 which will bring besides the reduction of greenhouse gases (GHG) emissions, also multiple other benefits such as reduction of firewood used, reduction of pressure on natural resources and better health for women and children;
- Replacing an estimated 305,000 incandescent lamps with LEDs with a 40% target by 2018;
- Promote a nexus approach between energy and associated environmental issues;
- Universal access to modern cooking fuels by 2020; and
- Adopting a nexus approach between energy and other sectors.



As part of the process of developing these high impact projects, detailed assessments were conducted to ascertain the technical feasibility as well as the attendant risks. The SE4ALL high impact projects as explained above share several cross-cutting issues with NAWEC and NEA activities. For instance, the promotion of improved cook stoves will effectively reduce the demand for firewood and charcoal which is expected to have a positive direct impact on the deforestation rate. Similarly, the use of EE lighting and appliances will effectively reduce the pressure on the grid. The replacement of inefficient lights and appliances with efficient devices will also minimize the need for emergency power generation capacity that is fossil fuel- based. As such, this project will contribute to sustain the achievements of the UNIDO/GEF 4 and 5 projects including the adoption of a Renewable Act which seeks to support the establishment of a

¹² SE4All Action Agenda for The Gambia & The Gambia SE4All Investment Prospectus; http://www.se4all.org/sites/default/files/Gambia_AA_EN_Released.pdf

“legal, economic and institutional basis to promote Renewable Energy” linking them to priority projects of the SE4All Agenda.

As for the SE4All IP, the project aims at disseminating energy efficient solutions and measures at a national scale; as it covers not only the Greater Banjul Area but also the different provinces of The Gambia. The divide between urban areas (representing 50% of the population) and rural areas in The Gambia in terms of access to energy is quite wide: while 71% of urban households have access to electricity, in rural areas the figure drops to 13% based on figures from 2014. In terms of cooking fuels the gap is smaller, however, it remains significant i.e. 84.5% use firewood in urban households vs. 98.6% in rural areas.

2.2 Associated baseline projects

Within The Gambia Sustainable Energy for All IP, two projects have been identified as top priority by the Government from a list of eighteen (18) proposals, which the GEF/UNIDO project intends to support under its investment component. These projects are:

- a) The efficient lighting initiative proposed by MoPE which has as its main objective to save electricity from lighting and to get more households connected to the grid through massive distribution of CFLs. MoPE specific objectives are to: (1) reduce electricity consumption of lighting; (2) increase access to electricity; (3) reduce load shedding and ensure daily supply to households connected; (4) raise awareness about benefits of using CFLs and; (5) improve the voltage level for end users. The project should benefit directly 200,000 households. The project referred to as CN16 in the IP has been identified as one of the high priority projects to be implemented for the operationalization of the SE4All. In addition to lighting, the project will target refrigeration and chiller systems, which were also highlighted by the SE4All gap analysis as one of the largest consumers of electricity.
- b) Recently, PURA13 piloted an initiative under which CFLs were distributed to a number of households in Kanifing Estate and Banjul. The feedback from this pilot shows that the targeted households understood the benefits of using EE lightbulbs and would be interested to pay for improved lighting services. However, a number of them would not be able to afford these lamps on a cash-and-carry payment as they are more costly than incandescent lamps. Therefore, without a viable business model to access efficient lamps, as well as other domestic appliances and after-sales services, the opportunities of better efficiency may not be sustainably captured by consumers.
- c) The project “Establishing biomass briquetting and fuel efficient domestic stoves enterprises for enhanced access to energy for all” (CN2) which aims at promoting the manufacture of cleaner briquettes to be used in improved stoves on a national scale. The project –a private initiative presented by Greentech and the Biomass Recycling Research and Training Centre (BRRTC)– seeks to supply the market with 70,000 stoves and 17,000 tons of briquettes. Both Greentech and BRRTC have a range of test results for their stoves that are likely to fit in the improved stove and briquetting programme as envisaged under the National Investment Program for Access to Energy Services. The GEF project has identified some gaps related to CN2 i.e. not only focusing on briquettes made from groundnut shells and gasifier domestic cook stoves. Thus, based on the situation on the ground (consumer feedback and business trials), the GEF 6 project will expand the scope to other alternative fuels and adapted improved cook stoves such as rocket stoves. The GEF 6 project will support a transition phase by promoting improved cookstoves which burn firewood with a thermal and fuel efficiency of around 50%. Additionally, the project will promote sustainable firewood e.g. from pruning of cashew trees, etc. This highlight the market-based approach for which the GEF 6 project seeks to instill to the benefit of consumers and SMEs.

¹³ http://www.pura.gm/index.php?option=com_content&view=article&id=129&Itemid=133

In line with these two priorities, some initiatives are currently underway or will start in 2018 at national level.

Priority a)

- An upcoming investment in RE of EUR 85 million (EUR 15 million grant from the EU, EUR 35 million soft loan from the European Investment Bank – EIB and EUR 35 million soft loan from the World Bank) targets *inter alia*:
 - Replacing incandescent light bulbs with LED on existing street lights as well as introducing solar lighting in new street lights project. Street lighting initiative will replace 5,000 incandescent bulbs out of 9,000 existing across the country by LED bulbs supporting the objectives of CN16 of reaching and even surpassing the 200,000 households target as the energy savings from LED street lighting could be diverted to household use. The main beneficiary of the project is the National Road Authority (NRA) while NAWEC is the implementer.
 - Covering energy needs of schools and health centers as well as productive sectors in targeted communities using RE & EE solutions such as solar PV panels and EE lighting.
 - The GEF project is bringing additionality to this project and will support the costs of light bulbs and installation of an additional 500 existing street lights in rural areas.
- FAO has initiated in collaboration with Agency for Development of Women and Children (ADWAC), and the Gambia Technical Training Institute (GTTI), the design of adapted EE cook stoves for households. This project is currently in the prototype development phase with GTTI doing the design and manufacturing of the stoves and ADWAC doing the in-house testing in communities to ensure the stoves are adapted to end-users' needs. In 2018, the first prototypes will most likely be approved for dissemination.
- Greentech and the Biomass Recycling Research and Training Centre have worked on cook stoves adapted to briquettes. This partnership is refining the ELSA stove so that it efficiently burn the peanut shell briquettes produced by GreenTech.
- Due to the unstable grid and the expensive energy prices in The Gambia, private sector companies have been trying to find ways to be more energy efficient and grid autonomous. Some RE and EE activities conducted so far include:
 - Petrogas: some gas stations are hybrid by running on solar PV, the grid and diesel generators. In the near future, Petrogas is planning to shift to 100% solar PV panels to generate power completely out of the grid and to switch to EE appliances significantly reducing their energy costs and the exerted pressure on the grid. Besides, the company is planning to build an LPG refilling plant with different cylinders. The cylinders as well as the adapted EE LPG stoves will be sold in their many shops. The UNIDO/GEF6 project will take advantage of the wide network of Petrogas shops as collection points to for used light bulbs while raising awareness on the importance of adopting LED technology. It is envisaged that Petrogas can also serve as one the actors in charge of organizing proper disposal of used light bulbs in collaboration with NEA under the supervision of PURA. Petrogas is used to disposing of oil filters and other products.
 - Africell: Africell started to hybridize some of its base stations by using solar, wind, diesel generators and the grid to save on energy costs while ensuring a more stable network for their customers. Its final goal is to run their entire telecom network through RE to optimize the energy costs enabling them to retain but also to acquire more customers. Besides, Africell is willing to adopt EE technologies by shifting towards LED lighting on their base stations (9 LED lights per site over its 128 sites) and premises (1000 LED lights) as well as EE A/Cs in its shops and targeted base stations. The UNIDO/GEF6 project will capitalize on the actual 1.5 million customers' network to conduct awareness raising activities on the importance of EE technologies and practices.
 - Ecobank: Their premises and branches are already LED lighting-based. However they could go one step further by being more energy efficient in all their ATMs across the country in the next couple of years. They are looking to conduct an energy audit in this regard as soon as possible.

Priority b)

Under the West Africa Clean Cooking Alliance (WACCA), a regional workshop took place in 2014 in Banjul to initiate the development of the National Action Plan for Clean Cooking Energy in The Gambia.¹⁴ In December 2015, with the support of ECREEE, the National Action Plan was validated with four main objectives:

- Improve the efficiency and sustainability of wood and charcoal for household and commercial cooking energy value chains through sustainable forest management, improved charcoal conversion and use of high efficiency stoves;
- Develop new biomass energy cooking fuels including pellets, briquettes and biogas as well as liquid fuels, such as ethanol produced from agriculture or forestry waste;
- Promote LPG fuel and devices;
- Strengthen local economies through increased production of biomass fuels and stoves using proven business models.

These projects have the advantage of being initiated and promoted by national stakeholders who have risen the need to shift towards more sustainable energy access and conservation approaches. Therefore, the investment components are demand-driven proposals. Unfortunately, the overall IP and WACCA Action Plan are still looking for additional funding in order to reach the desire targets.

Other initiatives are ongoing or will start in 2018 related to clean cooking:

- FAO has initiated in collaboration with Agency for Development of Women and Children (ADWAC), and the Gambia Technical Training Institute (GTTI), the design of adapted EE cook stoves for households. This project is currently in the prototype development phase with GTTI doing the design and manufacturing of the stoves and ADWAC doing the in-house testing in communities to ensure the stoves are adapted to end-users' needs. In 2018, the first prototypes will most likely be approved for dissemination.
 - The GEF project will integrate these ICS if the tests are conclusive. Based on the quality and expertise of the partners (FAO, GTTI and ADWAC), it is safe to assume that these stoves will be promoted by the project in the demo project (see Component 3)
- Greentech and the Biomass Recycling Research and Training Centre have worked on a gasifier cook stove adapted to briquettes. This partnership is refining the ELSA stove so that it efficiently burn the peanut shell briquettes produced by GreenTech.
 - As stated above, the GEF project will allow the users to decide which ICS suits best their needs as long as all stoves promoted under the project will be drastically more efficient compared to the baseline.
- Petrogas: The company is planning to build an LPG refilling plant using quality cylinders. The cylinders as well as the adapted EE LPG stoves will be sold in their many shops.

2.3. Synergies with regional initiatives and programmes

The proposed UNIDO/GEF6 project is in line with several regional initiatives and programmes promoted by major regional players to ensure that The Gambia meet its regional commitments while facilitating South-South cooperation and co-financing opportunities.

- ECOWAS Energy Efficiency Initiatives

Under the leadership of ECREEE with technical assistance of ECOSHAM, the energy efficiency programme will keep supporting The Gambia directly and indirectly through the participation of local stakeholders in all training and workshops of the ECREEE's Energy Efficiency Programme. The UNIDO/GEF 6 project can leveraged the following activities/achievements under ECREEE's Energy Efficiency Programme:

- ECOWAS Minimum Energy Performance Standards (MEPS) for air-conditioning products and on Minimum Energy Performance Standards (MEPS) for refrigerating appliances;
- Toolkit for calculating the energy performance of buildings in the ECOWAS region;

¹⁴ http://www.ecreee.org/sites/default/files/event-att/gambia_clean_cooking_energy_action_plan_framework_final.pdf

- West African Industrial Energy Efficiency Project.

In 2018 as ECREEE's Energy Efficiency Programme seeks to achieve the below activities, The Gambia is expected to be one of the main benefactor especially through TGSB in the following activities:

- Development of the Minimum Energy Performance Standard (MEPS) and draft regional labelling directive label for electrical appliances;
- Development of training material on the establishment of Energy Service Companies (ESCOs) and the use of Energy Performance Contract (EPC)
- Development of regional energy management standards in Industry according to ISO 50001.

- ECOWAS Standards and Harmonization Model (ECOSHAM)

The UNIDO/GEF6 Project will leverage synergies with ECOSHAM, in Component 4 with TGSB. ECOSHAM, which since 2013, is the regional body in charge of establishing harmonized standards, complying with ISO/IEC directives. The ECOSHAM is based on 6 Technical Harmonization Committees whereby especially THC5 on Electro Technical is related to the project (but not only). THC5 aims at introducing harmonized standards and performance schemes called Minimum Energy Performance Standards inter alia for lighting, air-conditioners and refrigerators.

- ECOWAS Entrepreneurship Support Facility

Created in April 2015 in partnership with ECREEE, IRENA and academic institutions such as 2iE (Burkina Faso) and CERMI (Cabo Verde), this programme builds the capacity of entrepreneurs involved in the RE and EE fields. It offers training and technical assistance to support entrepreneurs in the ECOWAS region in refining their business models and plans to enable their business to become and remain prosperous.

- ECOWGEN

ECOWAS Gender Mainstreaming programme has finalized a gender mainstreaming policy for the energy sector. As such, several activities are to take place in member states in order to ensure the policy is fully applied at the country level. Additionally, the ECOWGEN Business Development Fund, which is implemented in collaboration with AfDB, UN Women and CTI-PFAN will be a good avenue to provide more business support services (capacity-building and funding) to selected entrepreneurs through the UNIDO/GEF6 Project.

- Regional Off-Grid Energy Project (ROGEP)

The UNIDO/GEF6 project is in line with ROGEP focuses on off-grid electrification including a component on supporting the commercial uptake of solar water heaters. ROGEP is implemented by ECREEE with the financial support of the World Bank

-ECOWAS Energy Efficiency Policy

The implementation of UNIDO/GEF6 Project will contribute towards achieving the regional targets on energy efficiency contained in the ECOWAS Energy Efficiency Policy. These targets are focused on curbing the use of charcoal and wood as well as increasing the use of efficient appliances.

All the above regional initiatives, programmes and policies have direct synergies with the GEF 6 project. They will contribute to building the capacity of specific stakeholders in The Gambia (MOPE, TGSB, entrepreneurs, etc.). Additionally, their implementation will contribute to the objectives of the GEF 6 project.

3. The proposed alternative scenario. GEF focal area strategies with description of components and expected outcomes

The project will bring about a scenario that combines both technical assistance for supporting the existing institutional framework as well as catalyzing investment in more efficient bulbs, refrigeration, air conditioning (RACs) appliances,

cook stoves and cooking fuels resulting in transformational change in the country's energy access situation and end-users' behavior. All project components contribute to Program 1 of the focal area CCM 1 "Promote Innovation, Technology Transfer and Supportive Policies and Strategies" as it promotes a nexus approach between energy and other sectors complying with the goals of SE4All. Component 1 will ensure the mainstreaming of sustainable energy issues in the broader policies, programmes and projects within the country. Components 2 and 3 of the project will contribute to Program 1 by demonstrating the cost effectiveness of low carbon devices and technologies, such as efficient lighting and refrigeration, air conditioning (RAC) systems and improved cook stoves in an integrated manner. Component 4 will establish quality control standards, as well as improve various capacities for market players and market enablers that will catalyze and sustain private sector led dissemination of quality EE solutions beyond the life of this project. Finally, Component 5 of the project relates to the effective monitoring, evaluation of the project activities. Each component is described in great detail below.

Component 1 – National platform to foster nexus issues

Component 1 aims to integrate energy issues in a more systematic manner in other sectors as energy is crucial to any income generating and public services activity. As such, Component 1 will create the institutional framework and necessary capacities to adopt and apply the nexus approach by targeted public and private organizations (all members of the national platform) to ensure that the activities continue even after project completion. As such, funds for Component 1 will be allocated to MoPE as energy and the energy nexus is part of its mandate and to ensure successful implementation and sustainability of the National platform.

Output 1.1.1 National platform established and used on a regular basis to discuss and address the nexus between energy and policies, programmes and projects in other sectors

The national platform is envisaged to be a discussion forum and coordination mechanism addressing the nexus between energy and other sectors. The platform will make proposals on how existing policies, programmes and projects could be improved by using the nexus approach. The platform will also facilitate a learning process on measurement, reporting and verification (MRV) of climate friendly initiatives in support of domestic strategies for monitoring the country Intended Nationally Determined Contributions (INDCs) and the achievements towards attainment of the Sustainable Development Goal 7 (SDG-7).

In order to further support the energy nexus issues, the National Platform should facilitate the implementation of incentives to promote the uptake and dissemination of the targeted EE solutions at large scale in different sectors, geographical areas and target groups. It is expected that after the platform is established at least 20 projects will use the nexus approach to encompass RE/EE in other sectors. Efforts will also be made to use gender mainstreaming during the design and implementation of these nexus projects.

ECREEE will play a supporting role to the national platform mainly by building capacity of the members. Over the course of the project period, as has been the case in the past, staff from MOPE and MoEnv have been associated to various trainings organized by ECREEE. Specifically in the framework of the GEF6 project trainings can be extended to other members on RE, EE, climate, gender mainstreaming on energy policies, etc. As far as EE is concerned through the ECOWREX - ECOWAS Observatory for Renewable Energy and Energy Efficiency - platform, activities of mutual interest will be highlighted for specific targets e.g. households, private and public sectors stakeholders.

Activity 1.1.1.1. Set up the national platform

After the stakeholder consultations and a benchmarking of successful national nexus platforms active in The Gambia and abroad, the terms of reference of the National platform to foster nexus issues were developed including the activities, expected outcomes, membership, operations, communication and budget (see Annex G).

Based on these, the national platform will be operationalized. The project management office (PMO) established under the MoPE will initially act as the secretariat of the proposed platform. As decided by the stakeholders during the validation workshop, the national platform will be added to the project management set-up (see A.6.). Staff from MoPE

and other members of the platform will be selected to further support it on a regular basis in order mainstream its functions under MoPE upon project completion.

As the national platform will cover several topics, it is envisaged that working groups or sub-committees of the national platform will be created. For example, a working group composed of PURA, MoPE, NEA, TGSB, Gambia Chamber of Commerce and Industry (GCCCI) as well as consumer associations will support the development of a clear and simple regulation scheme for EE appliances. Other committees will report to the national platform on energy nexus issues incl. the National EE Solutions Committee for standards, testing and certification on EE solutions targeted by the project led by TGSB (PC4).

Activity 1.1.1.2. Organize meetings to coordinate with all members

The platform will provide the opportunity to meet at least twice a year, deliberate on various nexus issues and make proposals on how to jointly address them. The first meeting of the year will take place in January and will focus on the developing and approving the work plan for the year ahead including projects to be designed and implemented by the members of the platform. The second meeting will take place in December and will focus on the evaluation of the progress made during the year to draw key conclusions, lessons learnt and recommendations. *Ad hoc* meetings will take place as necessary upon request of MoPE or any other member.

The platform secretariat will be responsible for the whole organization of the meetings (all members or sub-committees) including its preparation and follow up actions. In order to ensure efficient and productive meetings, preparation material will be distributed ahead of time including inputs/contents of the different members and sub-committees as well as regular monitoring of the work plan and indicators.

The secretariat will also coordinate the logistics of the meetings. As the secretariat will be at first the PMO (located at the MoPE) and then the MoPE itself, meetings will be held in a meeting room at the MoPE's premises and will be counted as co-financing for the project. The MoPE will support transportation to and from the meeting whenever necessary.

Activity 1.1.1.3. Identify capacity and knowledge gaps of platform members

A needs assessment will be conducted to determine the capacity and expertise needs of platform members to ensure that optimum results are obtained from the planned training activities. During the first meeting of the platform, the capacity building process will be explained to the members and a working group will be set to support the capacity building activities. The working group will be responsible of collecting the training needs of all members through different channels. These will cover *inter alia* existing knowledge in terms of energy efficiency and its link and impact on other sectors.

Activity 1.1.1.4. Develop training programme, implementation plan, training teams and training materials

Based on the results of the needs assessment, a training programme with a work plan will be proposed. For each of the trainings, the objectives, expected learning outcomes, scope, structure, modules, number of trainers and participants as well as the required materials will be described.

Proposed trainings will include cross-sectorial topics such as gender mainstreaming, entrepreneurship, communication and marketing. Staff at the MOPE who are well-versed in topics such as energy efficiency will provide high-level trainings to other members of the platform in regards to agriculture, buildings and clean cooking, etc.

A participatory approach for the trainings will be adopted. Training will be mainly developed and held by the MoPE in collaboration with other members of the platform to foster collaboration and better understanding of the interrelated topics and competencies. In addition, costs will be optimized.

Activity 1.1.1.5. Conduct trainings

The trainings will be a balanced mix of lectures, case studies, practical exercises, working group sessions, field visits etc. to facilitate understanding, attention, ownership and ability to share the acquired capacity to others including

colleagues. Training materials will be shared with the participants and on the website when appropriate to share the knowledge. Training sessions will be organized by the secretariat of the national platform as well as targeted support from the members of the platform. They will comply with the training programme as stated in activity 1.1.1.4. The organization encompasses securing the venue and the necessary catering, sending the training materials for printing, administrative and logistic tasks, etc.

The training sessions will be held in Banjul accordingly in one of the platform members' premises and will be considered as co-financing for the project. The participatory sharing approach along with trainings held in members' premises will support not only cost optimization but also sustainability and replicability of the trainings during and after the project. At the end of each training an open session moderated by the trainer(s) on the objectives of the training and the learning perceptions of the trainees as well as a short evaluation questionnaire will nourish the evaluation and continuous improvement of the training programme. The evaluation of the trainings will be included in the training report.

Activity 1.1.1.6. Knowledge management of the national platform

In order to contribute to the dissemination at large scale of EE solutions (appliances and clean cooking solutions) and measures, the activities and results of the national platform integrating energy in all income generating and public services activities need to be shared outside of its members. The communication strategy of the platform, its activities and results will encompass at least quarterly newsletters as well as a public website. A press conference will be organized to launch the national platform on energy nexus issues. It is expected that at least one person at MoPE will be designated to fully support the national platform.

Output 1.1.2 Policy recommendations around energy nexus issues are made

In the past decade, efforts were made in terms of policies be it on energy, trade and consumer protection in The Gambia. Nevertheless, new policy and regulations are still needed to support the uptake of RE and EE technologies in different sectors. This output will support the development of comprehensive policy recommendations that foster the integration of the nexus approach.

For instance during the PPG phase, the Ministry of Trade, Industry and Employment (MoTIE) committed to adapt custom tariff schemes to EE solutions i.e. 0% tax for targeted energy efficient solutions. In other words, the MoPE should propose a list of targeted EE solutions that should be exempted for custom taxes to foster their uptake. The latter would be added into the 2010 GIPA – The Gambia Investment Promotion Act - and hence exempted from any customs tax.

Activity 1.1.2.1. Identify existing and missing policies on targeted energy nexus issues topics and draw clear policy recommendations

Based on the scope of the project, the gathered information and the stakeholder consultations, the platform will make general policy recommendations around the following points (non-exhaustive list to be adapted at national platform meetings):

- Street lights
- Efficiency in buildings policy in collaboration with ECREEE
- Clean cooking in public/governmental institutions (school feeding programs, hospitals, army barracks)
- Gender mainstreaming in energy policy in collaboration with ECREEE (ECOWGEN)
- Standards and labels on clean cooking solutions
- Performance schemes on EE appliances
- Trade/tax customs based on standards and performance schemes mentioned above

Due to the cross-functional nature of the platform and the variety of its members, the extensive knowledge on existing policies that could be amended in order to integrate the nexus approach will be leveraged. Working groups such as the National Quality EE Solutions Committee (Output 4.1.1 – reporting to the platform) will be put in place to ensure

relevance and effectiveness of policy and regulatory recommendations around energy nexus issues based on the policy results achieved under the GEF 4 and 5 projects. The activity will contribute to overcome some of the key barriers to the uptake of quality EE solutions in the country.

Project Component 1: National platform to foster nexus issues

Outcome 1.1. Increased integration of energy issues into policies, programmes and projects into other sectors

The component aims at integrating in a more systematic manner energy into key projects and programmes in The Gambia.

Output 1.1.1 National platform established and used on a regular basis to discuss and address the nexus between energy and policies, programmes and projects in other sectors

<i>Planned and Envisioned Activities</i>	<i>Main counterparts</i>
Activity 1.1.1.1. Set up the national platform	MoPE and all the members of the platform
Activity 1.1.1.2. Organize meetings & logistics and coordinate with all members	MoPE
Activity 1.1.1.3. Identify capacity & knowledge gaps of platform members	Capacity building working group and MoPE
Activity 1.1.1.4. Develop training programme, implementation plan, training teams and training materials	Capacity building working group, MoPE and trainers
Activity 1.1.1.5. Conduct trainings	MoPE and trainers
Activity 1.1.1.6. Knowledge management of the national platform	MoPE

Output 1.1.2 Policy recommendations around energy nexus issues are made

<i>Planned and Envisioned Activities</i>	<i>Main counterparts</i>
Activity 1.1.1.2. Identify existing and missing policies on targeted energy and energy nexus issues topics and draw clear policy recommendations	MoPE and all the members of the platform

Component 2 – Promoting the use of energy efficient appliances

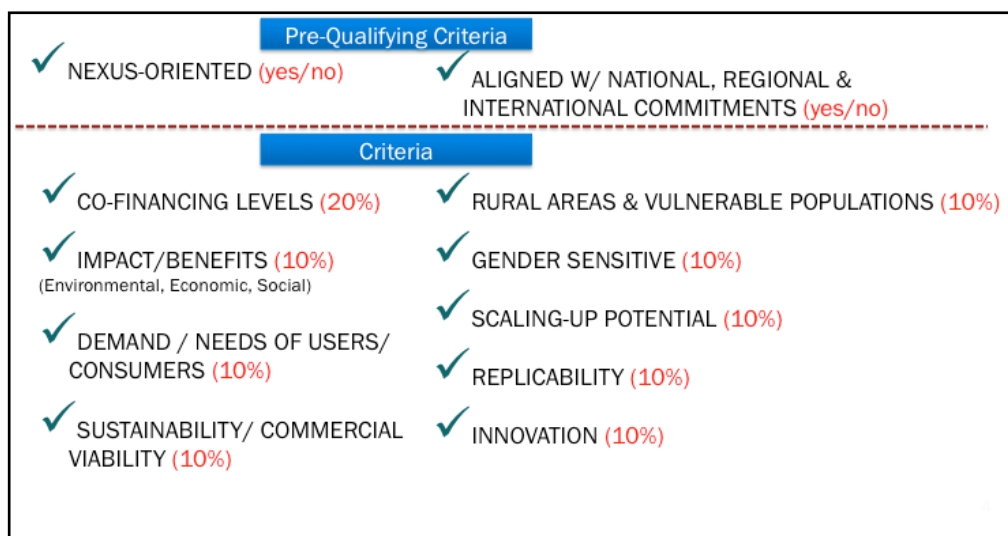
This component builds on the feasibility study conducted during the development of the SE4ALL IP of The Gambia. However, a more market-based approach to ensure sustainability and scaling up has been put forward at the request of the key stakeholders of the project. Market-building interventions such as result-based financing will be applied. As such, private sector companies will demonstrate the successful and sustainable dissemination and adoption of EE appliances. Those who pass the initial due diligence will be sub-contracted by the project to deliver specific measurable and quantifiable objectives. Therefore, demo project holders are subject to sustainability-oriented performance based contracts, where they commit to specific activities and results. In addition, an appropriate price of the environmental-friendly products and services provided by the private sector companies will be offered to customers to allow the market to pick-up.

The dissemination of these EE appliances relies also on:

- Clear and simple regulation schemes to be developed as part of the National Platform on energy nexus issues under PC1.
- Tax exemption inclusion and enforcement for targeted EE appliances as stated in PC1;
- Financial institutions (commercial banks and micro-finance institutions) and possibly other partners developing appropriate financial products to support end-users purchase and supply side investment in these EE solutions (see output 2.1.4.).

The activities to be undertaken under Component 2 intend to demonstrate the use of targeted EE appliances at large scale in urban and rural areas namely EE lighting, Refrigeration and Air Conditioning (RAC) and other EE appliances through demonstration projects. The intervention zones of the project will encompass the Greater Banjul Area as well as targeted rural areas which are a key priority for the government of The Gambia.

Based on the stakeholder consultations and national priorities, several potential demonstration projects for Component 2 were identified. Each potential demonstration project filled out a Demo Project Profile template (see Annex H) in order to collect the same information from each of them. A Demo Project Selection Committee composed of UNIDO, MoPE, Ministry of Finance and Economic Affairs (MoFEA), PURA and NEA met prior to the Validation Workshop to transparently evaluate and select the most promising demo projects in terms of the following criteria.



The main goal was to select demonstration projects to showcase the technical and financial viability of such EE appliances as well as their impact on energy costs, socio-economic benefits, reduced pressure on the grid as well as reduced GHG emissions. The counterparts of the selected projects are expected to mobilize at least 70% of the investments costs while the remaining will be funded by the GEF grant in forms of a series of financial payments and of non-financial contribution including targeted capacity building and awareness raising.

Output 2.1.1. 62,000 LED bulbs adopted in public buildings, street lights, households and private sector

In order to fulfill the general objective of the project as well as the Government's priorities, EE lighting is one of the targeted EE solutions of the project. The technology chosen is LED as under the Minamata Convention that The Gambia ratified any light bulb with a mercury content will have to be phased out by 2020 excluding CFLs as a potential technology even though it was included in the SE4All IP.

As such in terms of EE lighting, the target is to reach a total of 62,000 EE light bulbs through:

- At least 2,000 LED bulbs in public buildings to be covered by the project cost e.g. at an average USD 8/LED bulb - according to PURA to be supplied, distributed and installed by a private company. These demo public buildings will be selected by the Platform based on criteria such as energy consumption, public use of the service, potential number of direct and indirect beneficiaries, etc.
- At least 5,000 EE street lights to be covered by the World Bank project starting in 2018 and the investment in RE program led by the EU (incl. future solar street lights). A potential demo project under the UNIDO/GEF6 project on street lighting would support the ongoing replacing efforts by covering the costs of light bulbs and installation of 500 existing street lights in rural areas.
- At least 55,000 LED bulbs especially for private sector buildings and households. Some private sector companies (importers, distributors) will offer in their point of sales (PoS) LED light bulbs to their customers (households and private sector) including Petrogas stations. In addition, the Federation Cashew of Gambia Cashew Farmers committed to purchasing 50,000 LED bulbs by cashew farmers in rural areas over the project duration. The members of the Federation of Gambia Cashew Farmers will be encouraged to purchase LED after being sensitized

about the benefit of switching. Africell also plans to change their light bulbs to LED in their premises and shops (over 1,000) as well as on their 128 network sites (1,152).

Therefore, energy savings as well as direct emissions reduction through the project lifetime would account for 29,405 MWh and 20,053.9 tCO₂e, respectively.

Activity 2.1.1.1. Implement demonstration projects

The EE lighting part of the project encompasses different sectors to reach most Gambians including street lighting, public buildings, households and private sector premises. As such, the selected demo projects under this output are the following:

LED street lighting

There are about 9,000 street lights in The Gambia (4,000 in the provinces and 5,000 in the Greater Banjul Area) all using incandescent bulbs leading to higher energy costs, higher GHG emissions and exposure to hazardous material such as mercury. Street lights are crucial for social security and business creation hence their availability has an impact on the entire population. Therefore, changing the incandescent bulbs to LED bulbs in the street lights has tremendous upsides: it will enable to provide the saved energy to other needy consumers, to mitigate GHG emissions and other dangerous components, and to improve the safety and security benefitting the livelihoods of many Gambians, especially vulnerable groups such as women.

The National Road Authority in collaboration with NAWEC will start a project to phase out the incandescent bulbs and shift to LED bulbs. The World Bank, EIB and the EU have already committed to change 5,000 street lights; however, additional support is needed for the remaining 4,000 bulbs. Hence, based on a cost of USD 110 per changed light bulb, the UNID/GEF6 will support the replacement of 500 streetlights in rural areas.

Public buildings

This particular demonstration project envisages to replace 2,000 incandescent light bulbs with LED bulbs in targeted public buildings. The public buildings will be selected upon criteria defined at project inception phase; however, health centers, public buildings in rural areas and off the grid buildings should be prioritized. A private company will be contracted to supply, distribute and install the LED bulbs in the selected public buildings. This will create awareness and increase confidence in LED bulbs as a basic requirement for establishing a LED market. The UNIDO/GEF6 project will fully finance the supply of the LED bulbs which will be provided to the relevant selected public buildings. Each of them will then change the light bulbs using their own usual workforce related to lights.

Households and private sector

As part of the innovative business models to ensure the rapid dissemination of EE light bulbs, the project obtained the commitment from the Cashew Federation comprised of 13 cashew associations and around 15,000 farmers to acquire at least 50,000 EE bulbs until the end of the project after being convinced on the benefits of shifting to LED bulbs. The Balafon Company Limited, with its 3 existing resorts and 2 future ones, aims to install an additional 2,800 LED bulbs in its 5 hotels (adding to its 2,000 already operational LED bulbs).

Subsidy voucher for buying LED bulbs & waste management¹⁵

This demonstration project is linked to the projects above as it supports the acquisition of LED bulbs through a waste management process. Based on existing initiatives in Europe and North America of large LED bulb manufacturers, a collection system of any type of used bulbs will be put in place at partnering distributors including Petrogas. The collection system will consist of 10 collection points, which will collect the used bulbs and in exchange will provide the customer with a discount on the acquisition of LED bulbs. As there are no recycling facilities in The Gambia for these materials, the disposed LED bulbs will have to be shipped to a country with appropriate waste management facilities. Over 95% of a LED bulb is recyclable. In European countries, LED companies are obliged to provide relevant waste management schemes. The EU Directive 2012/19/EU on waste electrical and electronic equipment (WEEE) covers also lighting and includes an eco-contribution for each LED bulb sold. Hence in many European countries, the consumer

¹⁵ In addition to these selected demonstration projects, another project not yet finalized has been identified.

contributes as part of the product price to the waste management of the light bulb at acquisition. In addition to the recycling component, some EE lighting solutions producers allocate a share of the price of the bulb to support development projects in developing countries. The Mbolu Association, a Spanish-Gambian association, which benefited from previous GEF funding, has mobilized funds for its activities through a consortium of LED light producers in Spain. As such, LED light producers could support the replication of such a recycling support scheme in The Gambia. Collection, dismantling and shipment of used LED light bulbs, complying with international standards, could be taken care of by a local partner (such as Mbolu in collaboration with NEA) or to request the manufacturers to contribute towards such cost through their company social responsibility. Hence, the importance to partner with international LED light bulb producers who can offer this possibility if given the chance of entering the Gambian market and/or increase their sales. This aspect will be further investigated during project preparation phase.

Mainstreaming EE within the telecom network

Africell decided to shift to RE (solar & wind) in its base stations and cover its entire network of 128 sites in the coming 3 years. To move further in its cost optimization while supporting GHG emissions reduction, Africell aims at introducing EE solutions not only in its base stations but also on its premises and outlets/shops across the country as follows:

- base stations (180 EE ACs for 90 sites, 128 LED tower lights and 1,024 LED lights for 128 sites)
- premises (100 ACs and 1,000 LED lights)
- and 21+10 future outlets/shops across the country. (155 LED bulbs and 62 EE ACs).

As such the company will ensure all its branches have LED bulbs and EE ACs with the funding support (10%) from the UNIDO/GEF6 project.

Moreover, Africell also committed to actively support the dissemination of EE solutions and measures by raising awareness and contributing to changing consumer behavior by sending one SMS on a monthly basis to its large customer base of 1.5 million subscribers (i.e. 75% of the population) over the 36 months of the project.

Introducing EE solutions in community gardens

FAO is supporting the development of community gardens in rural areas to support food security for the most vulnerable populations. This includes crop production, livestock and poultry as well as food processing. In order to support this successful initiative further, LED lighting around the fences of the community gardens, poultry houses and processing unit, as well as EE cold storage units will be installed financed by the UNIDO/GEF6 project. This will result in reduced post-harvest losses, increased production and incomes, improved food security and livelihoods while protecting the environment.

Activity 2.1.1.2. Evaluate demonstration projects

The goal of the activity is to evaluate the status of the demonstration project implementation i.e. the performance of the sub-contractor to fulfill the objectives and indicators set by the project in the performance contract and to identify opportunities for project improvement, if any. This is in line with the market-based approach where accountability of market players contributes to dissemination of quality products and after-sales service which in return support market uptake.

The evaluation will involve a field visit and an analysis to assess the success of the project at different levels: EE, economic impacts, environmental benefits, social acceptance, etc. based on the expected results of the project. This activity will also assess the quality and sustainability of the demo project. Results obtained from the evaluation process will be integrated in the project progress reports and constitute lessons learnt and best practices that can feed similar projects in the future.

The evaluation objectives will be clearly defined prior to the visits. An evaluation team will be selected by UNIDO/the PMO and the other executing partners namely MoPE, NEA and TGSB during the first PSC. A template for the evaluation of the demonstration projects will be developed in order to provide clear guidance on the required contents of

the evaluation reports. It is envisaged that the demonstration projects will be closely monitored on a regular basis and visited at least twice a year by the PMO.

Activity 2.1.1.3. Raise awareness on EE lighting

In order to ensure large scale dissemination and adoption of EE lighting, targeted communication and related strategies are crucial.

An effective communication campaign around EE lighting will include a mix of means to increase the impact:

- Demo projects' goal is not only to showcase the feasibility and sustainability of the project but also to motivate others to shift to more EE technologies. To leverage the demonstration projects impact, it is crucial to:
 - Broadly communicate demonstration projects results through classic and social media as well as the official project website and the national platform for energy nexus issues;
 - Organize visits to demo project sites;
 - Promote demonstration projects as case studies to be showcased during conferences or other relevant international, regional and national events.
 - Promote gender mainstreaming as an essential part of the campaign by targeting men and women.
- Consumers' capacity will be enhanced to choose high quality products through:
 - Trainings on how to appropriately use the new products which will be done via face-to-face public demos, TV and radio sensitization using popular soap opera actors and local comedians. For sustainability purposes, distributors will participate in these trainings, benefit from Training of Trainers and get support from EE solutions producers to finance face-to-face public demos and TV and radio sensitization during and after the project;
 - Community meetings as done by PURA in the form of "Consumer Parliaments" in urban and rural areas where it will also be demonstrated how to install a LED bulb and monitor the energy savings and impact on the consumer's wallet;
 - A free phone number is also already available at PURA to answer questions related to EE solutions.
- Awareness will be further raised thanks to the support of Africell which will –as part of their co-financing– send 1 SMS per month for 36 months related to EE measures to its 1.5 million customers (almost 75% of the population) reaching a total of 54 million SMS sent during the project duration. The PMO will provide Africell with the 36 messages to ensure the content quality, accuracy and relevance. The messages are envisaged to be simple and user-friendly messages such as "switch to LED light bulbs to save 25-80% of energy costs", "turn off the lights if you are leaving a place", etc.

By combining these different awareness campaigns, the communication efforts will reach a large range of Gambians actively motivating them to shift to more EE solutions. The communication strategy and awareness campaigns will be developed by consultants in close cooperation with PURA, NAWEC, GCCI already rolling out such campaigns as well as Africell and other demonstration project partners.

Output 2.1.2. At least 1,030 other EE appliances are installed across the country

In addition to lighting, the project focuses on other EE appliances with significant impact on energy consumption and GHG emissions reduction. The appliances were also selected based on their compliance with SE4All IP, the government's priorities and the needs of the Gambian market through stakeholder consultations. They include:

- Refrigeration and air conditioning appliances (RACs)
 - 10 Heat pump chillers for the food processing industry and hospitals
 - 1,000 other RACs for households, public and private sector
 - EE ACs
 - EE refrigerators
 - Cold storage
- 20 solar water heaters (SWH) for public services and the tourism sector

RACs

EE heat pump chillers

The project includes the installation of efficient heat pump chillers as an alternative to both space cooling and heating systems. The heat pumps considered under this project will function as refrigerators by moving heat from the cool space of beverages/food processing units to a warm space, making the cool space cooler and the warm space warmer, but without generating heat. Efficient heat pump chillers are cooling/heating systems appropriate for the food processing industry, but also for hospitals which need both cool and warm air. The heat pump chiller simulation is based on the DCH series 10 tons. The installation of 10 EE heat pump chillers will generate per product lifetime, energy savings of 900MWh and direct emissions reductions of 610.610 tCO₂. Besides, considering a very conservative replication potential of 2, the indirect emission reductions will reach around 1,220 tCO₂.¹⁶

Other RACs

At least 1,000 refrigeration appliances i.e. EE A/Cs, EE refrigerators and EE cold storage will be installed in public buildings (incl. schools & hospitals), private companies and households. The project will also leverage an energy-agriculture-water-gender integrated approach by installing food processing units around the mango and other agricultural value chains as well as community gardens with crops, poultry, and ruminants. The project focuses on food processing rather than the agriculture sector. It will also work closely with the tourism sector, one of the country's development priorities. The Balafon Company Limited aims at replacing 175 additional A/Cs and respectively 50 EE refrigerators in its existing premises and replacing and installing 2,000 more EE A/Cs respectively 150 EE refrigerators in its newly acquired and its hotel under construction.

Solar water heaters

SWH, which use solar radiation to heat water, have been identified as an essential EE solution suitable for households and the booming tourism sector which is a key industry for The Gambian economy. Different technologies do exist but they all have a collector and a storage tank. At project launch, the technology will be selected based on clear and transparent criteria with users/demo project holder, experts and potential suppliers. The Balafon Company Ltd has already committed to install an additional 125 solar heaters in the coming years.

It is worth mentioning that, in the framework of ROGEP – the Regional Off-Grid Energy Project - it is envisioned to promote RE & EE in public buildings as well as water heaters. Therefore, activities foreseen in this framework will be done in synergy with the GEF6 project.

Activity 2.1.2.1 Implement demonstration projects¹⁷

The selected demo projects under this output are the following:

Mainstreaming EE within the telecom network

To move further in its cost optimization while supporting GHG emissions reduction, Africell aims at introducing EE solutions not only in its base stations but also on its premises and outlets/shops across the country. As such the company will ensure its HQ, outlets and targeted base stations have EE ACs with the funding support from the UNIDO/GEF6 project.

Introducing EE solutions in community gardens

The FAO is supporting the development of community gardens in rural areas to support food security for the most vulnerable populations. This includes crop production, livestock and poultry as well as food processing. In order to support this successful initiative an EE cold storage unit will be installed thanks to the UNIDO/GEF6 contribution. This

¹⁶ Please note that due to the lack of appropriate tools to stimulate investment in more efficient lamps and heat pump chillers in The Gambia, actual energy savings and GHG emissions reduction are calculated with software developed by the US Department of Energy, but using data of The Gambia, such as the grid emission factor (0.682 tCO₂e per MWh) and average electricity tariffs (USD 0.28 per kWh) as inputs.

¹⁷ The selected demonstration projects in this output also include EE lighting as depicted in Activity 2.1.1.1.

will result in reduced post-harvest losses, increased production and incomes, improved food security and livelihood while protecting the environment.

In this output some demonstration projects have been developed and selected. However, other additional demonstration projects have been identified but the developers were not able to submit their proposal yet. As such, funding has been reserved (USD 180,481) for these projects as shown in the summary table at the end of the component description. At project launch, these demonstration projects will be finalized and integrated into the list of demonstration projects. These projects are:

- EE in the tourism sector (USD 50,000)
 - EE ACs, EE refrigerators and LED light bulbs will be used in 3 existing hotels, one newly acquired hotel and a future hotel under construction opening at the end of 2018. The project holder is the Balafon Company Limited and the main partner is MFH Group which *inter alia* distributed EE ACs and refrigerators and aiming to expand its product portfolio to LED light bulbs.
- Cold Chain & Heat pump Chillers in agro processing (USD 100,000)
 - Based on meetings and discussions with the Ministry of Agriculture, in the mango processing especially, there are needs in EE solutions especially related to cold storage and heat pump chilling.

Activity 2.1.2.2. Evaluate demonstration projects

The goal of the activity is to evaluate the status of the demonstration project implementation i.e. the performance of the sub-contractor to fulfill the objectives and indicators set by the project and to identify opportunities for project improvement, if any. Further details on the evaluation of demo project can be found in Annex L.

Activity 2.1.2.3. Raise awareness on other EE appliances

In order to ensure large scale dissemination and adoption of EE appliances, targeted communication and related strategies are crucial.

An effective communication campaign around EE appliances will include a mix of means to increase the impact, details which can be found in Annex L.

By combining these different awareness campaigns, the communication efforts will reach a large range of Gambians actively motivating them to shift to a more EE solutions. The communication strategy and awareness campaigns will be developed by the consultants in close cooperation with PURA, NAWEC, GCCI already rolling out such campaigns as well as Africell and other demonstration project partners.

In order to ensure large scale dissemination and adoption of other EE appliances, targeted communication and the related strategy are crucial.

Output 2.1.3. Technical and marketing & distribution skills related to EE appliances are built and 20 practitioners are trained

Capacity building in marketing, distribution, installation and maintenance on EE appliances will be conducted. This will mostly be covered by the non-financial support to the demonstration projects. Vulnerable populations –such as women and youth– will be targeted to strengthen their capacities and to empower them to escape extreme poverty through specific trainings in business and entrepreneurship management.

Activity 2.1.3.1. Identify capacity and knowledge gaps of key stakeholders on EE appliances

First and foremost, key stakeholders related to EE appliances, which will be trained, need to be identified. Based on a value chain integrated approach as well as the demonstration projects selected, the stakeholders should include at least the following market players and enablers:

- Importers/distributors of targeted EE appliances
- Installers of EE appliances
- Public entities linked to EE (MoPE, NEA, TGSB, PURA as well as others)

- Associations and large users of targeted EE appliances (consumers association, GCCI, Tourism & Travel Association of the Gambia)
- Demonstration project holders and partners (Africell, NAWEC, NRA, FAO, community garden leaders, etc.)

The activity will conduct a needs assessment in terms of capacity and knowledge of the stakeholders identified above to ensure optimum results are obtained from the planned training activities.

This assessment will be done through a written questionnaire sent to the identified stakeholders and follow-up taken care of by the PMO. In addition, interviews and discussions with representatives of each category of stakeholders will be conducted to obtain more detailed information if required ensuring that the trainings proposed are suitable to their respective needs. Results of the process will be shared with the respondents and next steps of the training process will be explained. This activity will be undertaken by ECREEE in collaboration with PMO and MoPE.

Activity 2.1.3.2. Develop selection process, training programme, implementation plan, training teams and training materials

The process for the selection of the training participants is crucial to ensure that suitable candidates are part of the training programme.

Selection criteria of the participants from the categories stated in Activity 2.1.3.1. may include the following aspects:

- Relevant work experience related to energy and EE in particular
- Participation in previous trainings related to EE or similar fields
- Current position in the organization
- Role related to EE appliances
- Gender and age
- Perceived impact of the training programme in the candidate's activities and for the project
- Province of residence

Equal opportunities should be given to men, women and youth.

A simple and straight forward application form based on the selection criteria will be prepared and shared with the different categories of stakeholders for EE appliances.

The selection procedure will be split in different steps as follows:

- i. Application: form and resume
- ii. Candidate preselection
- iii. Short interview
- iv. Final candidate selection

A small selection committee composed of the PMO and respectively one representative of the MoPE, NEA and TGSB will select the 20 candidates for the training programme. Efforts will be made to ensure that at least 40% of the training participants are women, at least 40% are under 35 and at least one third are from the provinces outside of the Greater Banjul Area.

Based on the results of the needs assessment, a training programme with its implementation plan will be proposed including the training objectives, expected learning outcomes, scope, structure, training modules, trainers, participants and materials.

Activity 2.1.3.3. Conduct trainings

The trainings will be a balanced mix of lectures, case studies, practical exercises, working group sessions, field visits etc. to facilitate understanding, interest, ownership and ability to share the acquired capacity to others including peers in their organizations. Training materials will be provided to the participants.

The training sessions will be organized by the PMO in collaboration with the MoPE and conducted by ECREEE, GCCI and the selected importers/distributors. ECREEE will for instance, under its Entrepreneurship Technical Assistance Facility, assist promoters to refine their business plans and business models to make them bankable. They will comply

with the training programme as stated in activity 2.1.3.2. The organization encompasses securing the venue and the necessary catering, sending the training materials for printing, administrative and logistic tasks, etc. Efforts will be made to ensure that at least 40% of trainers and facilitators are women.

The training sessions will be held in Banjul accordingly in one of the premises of the organizers/supporters of the trainings.

The training provision approach along with trainings held in organizers/supporters' premises will support not only cost optimization but also sustainability and replicability of the trainings during and after the project.

At the end of each training an open session moderated by the trainer(s) on the objectives of the training and the learning and perceptions of the trainees as well as a short evaluation questionnaire will nourish the evaluation and continuous improvement of the training programme and the trainings. The evaluation of the trainings will be included in the training report.

Output 2.1.4. Facilitating access to finance and other incentives for EE appliances dissemination on the supply and demand side

Financing is considered one of the major obstacles to the uptake new technologies on both demand and supply side.

Activity 2.1.4.1. Design adapted financial mechanism(s) for EE appliances

First, a preliminary assessment of the financial hurdles specific to each player of the value chain will be undertaken through a focus group session with relevant stakeholders. Based on the information collected, the appropriate financial mechanisms will be designed and implemented to support the dissemination and adoption of EE appliances at large scale in collaboration with financial institutions. With the information collected so far, several financial schemes have been deemed appropriate to support the demand and supply side of EE solutions under the local circumstances.

On the demand side, one of such schemes targets EE lighting where users pay a small initial payment and the rest is paid monthly through the electricity bill with NAWEC following the successful "Domestic Efficient Lighting Programme" in India or through a micro-finance institution or partnering NGO. In addition, a simple voucher mechanism whereby a voucher for a price reduction for a LED bulb is granted for each used incandescent or LED bulb deposited at collection points. For larger appliances such as heat pump chillers in agro-processing, a partial funding from the GEF and/or a loan with a local financial institution could be put in place.

On the supply side, financial institutions could support at least 2 private sector importers/distributors of EE appliances. In addition, as part of the efforts of the national platform for nexus issues and MoTIE and MoPE, a tax exemption for EE appliances could be applied as an incentive to support the uptake of the technologies in The Gambia.

Moreover, a revolving fund with preferred interest rates both for the supply and demand of EE appliances will be provided by a local financial institution with a proven track record of managing revolving funds for development projects. For a given EE project, the start-up (or part of the development cost) would be provided by the GEF grant (out of the USD 50,000 of the GEF grant in the fund). The rest of the needed capital will be covered by the loan to be provided by a local financial institution at preferred interest rates from the USD 200,000 credit line set-up for the purpose of the project. The operation, growth and sustainability of the fund would be financed through the payback of the beneficiaries and the interest rates. A system whereby the GEF grant would subsidize the interest rate or provide partial loan guarantees has also been considered.

Once the appropriate financial mechanisms are designed, (i) the selection criteria and conditions as well as (ii) the possible GEF funding and co-financing and (iii) the financial institution partner(s) will be identified.

These options have been discussed with Ecobank at the PPG stage and could be extended to other financial institutions at project inception. However, the involvement of Ecobank could not be materialized. The Social Development Fund at a very low interest rate (about 2%) will be considered as well as other local financial institutions.

As part of ECREEE's programmes, it is envisioned that small grants are specifically made available to start-ups and innovative business ideas to achieve proof of concept. Financing mechanisms under ECREEE's programmes include working with financial institutions such as banks and micro-finance institutions to provide financing scheme such as loan guarantees and loan capital. During the initial phase, ECREEE will work in The Gambia specifically by commissioning a consultant to develop the terms and conditions of the financial schemes in collaboration with all relevant stakeholders.

The activity will be developed with MoPE, NEA, and PURA in close collaboration with NAWEC, the Social Development Fund and other relevant financial institutions.

Activity 2.1.4.2. Train FI representatives on risks and opportunities of EE for the finance sector

In order to ensure an adapted design as well as a successful implementation and monitoring of the financing schemes, a dedicated training of 15 loan officers will be conducted and will focus on:

- Financial, environmental and social risks analysis for RE/EE opportunities
- Adoption of green finance practices
- Targeted EE appliances including value chain, value generation, risks and mitigation actions, project lifetime, potential guarantees/collaterals

Trainees will have the opportunity to provide feedback on the proposed financial mechanism(s) in order to improve it prior to its implementation based on their field experience. The training will be conducted by international experts in close collaboration with the MoPE and other stakeholders as deemed relevant. It is expected that at least 40% of the participants will be women.

Activity 2.1.4.3. Support sensitization on available financial mechanisms

As with Activities 2.1.1.3 and 2.1.2.3, awareness need to be raised on the financial mechanisms developed for both the demand and supply sides. The financial mechanisms will be included in the communication efforts in the two other activities specific to given EE appliances. These will encompass the following media: SMS, TV, radio, project website, social media, and printed media. The partnering FI and ECREEE is expected to support the targeted communication activities to advance the scaling up of EE appliances in The Gambia.

Activity 2.1.4.4. Evaluation of financial mechanisms

This activity will be covered by the partnering FI providing the financial mechanisms. In collaboration with PMO, the FI will define Key Performance Indicators (KPIs) to report on a regular basis on designed product sales, challenges and potential solutions. The PMO will undertake some cross-checks and randomly interview a sample of beneficiaries twice a year to monitor the performance of the financial mechanism.

As stated above, during the PPG phase, demonstration projects have been identified, evaluated and selected for Component 2. The detailed budget for each demonstration project is described in the table below. Please note that the projects marked in grey will be finalized at project launch.

PC 2 - EE appliances	Total Demo Project Budget	GEF Grant
EE solutions one-stop-shop	\$50,000	\$10,000
Mainstreaming EE within the telecom network	\$784,315	\$80,000
LED Street Lighting	\$400,000	\$55,500
Introducing EE solutions in community gardens	\$515,000	\$75,000
EE in public buildings	\$16,000	\$16,000

PC 2 - EE appliances	Total Demo Project Budget	GEF Grant
Capacity building (technical & distribution) incl. study tours		\$65,000
EE for tourism		\$50,000
Cold Chain & Heat pump Chillers in agro processing		\$100,000
Subsidy voucher for buying new LED bulbs & waste management		\$35,000
Finance support / Revolving Fund		\$50,000
Other potential projects		\$30,481
Total		\$566,981

Project Component 2: Promoting the use of energy efficient appliances

Outcome 2.1. Increased use of efficient lights and other EE appliances

The component aims at supporting to the dissemination and adoption of EE appliances incl. LED lighting, EE RACs and SWHs across The Gambia.

Output 2.1.1. 62,000 LED bulbs adopted in public buildings, street lights, households and private sector

Planned and Envisioned Activities	Main counterparts
Activity 2.1.1.1. Implement demonstration projects	Demo project partners
Activity 2.1.1.2. Evaluate demonstration projects	Evaluation team, MoPE, NEA, TGSB
Activity 2.1.1.3. Raise awareness on EE lighting	PURA, NAWEC, GCCI, Africell and other demo project partners

Output 2.1.2. At least 1,030 other EE appliances are installed across the country

Planned and Envisioned Activities	Main counterparts
Activity 2.1.2.1. Implement demonstration projects	Demo project partners
Activity 2.1.2.2. Evaluate demonstration projects	Evaluation team, MoPE, NEA, TGSB
Activity 2.1.2.3. Raise awareness on other EE appliances	PURA, NAWEC, GCCI, Africell and other demo project holders & partners

Output 2.1.3. Technical and marketing & distribution skills related to EE appliances are built and 20 practioners are trained

Planned and Envisioned Activities	Main counterparts
Activity 2.1.3.1. Identify capacity and knowledge gaps of key stakeholders on EE appliances	ECREEE, MoPE and PMO
Activity 2.1.3.2. Develop selection process, training programmes, training teams, implementation plan and training materials	ECREEE, importers/distributors of EE appliances, GCCI
Activity 2.1.3.3. Conduct trainings	ECREEE, importers/distributors of EE appliances, GCCI, MoPE

Output 2.1.4. Facilitating access to finance and other incentives for EE appliances dissemination on the supply and demand side

Planned and Envisioned Activities	Main counterparts
Activity 2.1.4.1. Design adapted financial mechanism(s) for EE appliances	MoPE, NEA, PURA, NAWEC, Social Development Fund and other relevant FIs
Activity 2.1.4.2. Train FI representatives on risks and opportunities of EE for the finance sector	MoPE
Activity 2.1.4.3. Support sensitization on available financial mechanisms	Partnering FIs, PURA, NAWEC, GCCI, Africell and other demo project partners
Activity 2.1.4.4. Evaluation of financial mechanisms	Partnering FIs

Component 3: Promoting the production and use of efficient cook stoves and alternative cooking fuels

Currently, each person in The Gambia uses on average 1 kg of wood or its charcoal equivalent every day for cooking. A regular family of 7 members uses 2.5 ton per year at a cost of USD 1.05 (GMD 50) per kilogram of wood (2017) resulting in an annual expense of about USD 2,625 (GMD 125,000). The First National Communication of The Republic of The Gambia to The United Nations Framework Convention on Climate Change assumes that 1 kg wood emits $(0.5 \times 44/12) \times 1.8333$ kg CO₂e. As such by adopting 5,000 improved cook stoves 6,250 tons of wood and an additional 17,000 tons of wood from fuel switch could be saved equivalent to direct emission reductions of 42,624.23 tons CO₂e and an indirect emission reductions of 170 496,92 t CO₂ under Component 3.

Building on the feasibility study conducted during the development of the SE4ALL IP of The Gambia that seeks to halt the unsustainable use of firewood in line with the West Africa Clean Cook Stoves Alliance (WACCA) programme, this component targets institutional and commercial cooking through a broad choice of household cooking appliances and fuel types, not only briquettes as in the SE4All IP CN2.

The component envisages to create market-based environment for uptake of efficient cook stoves combined with cleaner fuel while recognizing the gender-responsive impact on management of local resources. Women are primarily responsible for the collection of firewood, purchase of charcoal and the overall cooking process. As such, this project will ensure they play a central role in developing alternative solutions for sustainable cooking fuels supply and management of natural resources.

Output 3.1.1 17,000t of agro-waste promoted as clean cooking fuels

In the SE4All IP CN2 focus was put only on groundnut shell waste based briquettes as modern cooking fuel. However, due to affordability, availability and commercial viability issues of such briquettes, other modern cooking fuels and improved cook stoves with a proven track record especially in other Sub-Saharan African countries (South-South cooperation) have been considered.

Based on the selection of improved cook stoves, firewood and forest savings as well as direct GHG emissions were determined. The supply of at least 5,000 improved cook stoves will save at least 6,250 tons (2.5t/year/family * 50% EE * 5,000 ICS) of wood fuel on the third year. Concerning the briquettes and biochar, the assumption is to have 17,000 tons produced during the project duration replacing an equivalent of 17,000 tons of wood by the end of the project.

According to Greentech and PRSP, which proposed the project in the IP, savings due to cleaner fuel can be translated into monetary value using the following parameters: One community based briquetting team of six (6) women can produce about 120 to 150 kg of briquettes every day using biomass waste providing employment and generating income of USD 10.8 (GMD 480) to 13.5 (GMD 600) per day at USD 0.09 (GMD 4) for one kg of briquettes. The savings due to better efficiency of stoves translated in monetary value is about USD 151 (GMD 6,720) per year and per family. This makes the manufacturing of stoves and briquettes an attractive business that empowers local communities while safeguarding the environment.

Under the programme of activities of the bioenergy programme and WACCA, ECREEE will support demo projects in alternative clean cooking fuels such as briquettes, biochar and bioethanol. Additionally as has been the case the past 3 years, as many as 15 entrepreneurs will participate in specific trainings under the WACCA Camp.

ECREEE supported the creation of the national biochar alliance as well as the national clean cooking alliance. Thus it will continue to strengthen the capacity of these two platforms through specific trainings, support for demo projects, study tours and small grants.

Activity 3.1.1.1: Implement demonstration project on alternative clean cooking fuels

The selected demo project under this output is the following:

Alternative cooking fuels

The affordability and accessibility of alternative cooking fuels to firewood and charcoal is crucial to fight deforestation, desertification, GHG emissions and health issues. As such, the sustainable production and distribution of briquettes, pellets and biochar has been envisaged. To do so, a consortium of partners especially producers of alternative cooking fuels –all part of the Gambia Clean Cooking Alliance– will work together to offer affordable and available cooking fuel alternatives. Production will encompass centralized as well as decentralized options including training of fuel wood collectors. As distribution has been an issue so far for briquettes in particular (Greentech), the project includes the development of 12 point of sales at existing retailers along with a delivery service. To further support the effective dissemination of efficient alternative cooking fuels, GTTI will provide technical support as part of the project. Indeed, the development and production of highly calorific cooking fuels at a lower price is essential to the success and sustainability of the project. Furthermore, this project is closely linked (close collaboration between the applicants/partners) to the other projects of Component 3. Thus, the project will produce 17,000 tons of clean cooking fuels from agro-waste and make them available at an affordable price through a last-mile distribution method using women groups, other retailers and financing systems.

The targeted alternative clean cooking fuels based on 17,000 tons of agro-waste are the following:

- Groundnut shell-based briquettes as already produced by GreenTech in collaboration with the Biomass Recycling Research and Training Centre (PRSP)
- Cashew nut shell-based biochar as cashew nuts are not adapted for briquettes due to their dangerous fumes. In fact, cashew nut shells have a high heating value of 20.7 MJ kg⁻¹ which is among the highest from the spectrum of biomasses. The Cashew Federation will provide the cashew shell waste to biochar producers such as Greentech who are expecting to receive the required biochar equipment by Q4 2017. Other biochar producers members of the African Partnership for Biochar –launched in 2016 in Nairobi– will also support the production and distribution of biochar for clean cooking purposes among them Ger Bal and Musa Samoura. Recently, The Gambia launched the National Biochar Association with the support of ECREEE and the African Biochar Partnership. This newly-established local chapter will support the efforts of the local promoters.
- Sustainable firewood obtained from necessary pruning of cashew trees could be used for EE firewood cook stoves. Mapping of the available sustainable firewood including volumes, seasonality and potential price will be undertaken at the beginning of the project. The Cashew Federation committed already to provide some sustainable firewood for the fish smoking demo project.

Activity 3.1.1.2. Evaluate demonstration project

The goal of the activity is to evaluate the status the demonstration project implementation i.e. the performance of the sub-contractor to fulfill the objectives and indicators set by the project and to identify opportunities for project improvement, if any. Further details on the evaluation of demo project can be found in Annex L.

Activity 3.1.1.3. Raise awareness on waste to energy for clean cooking fuels

In order to ensure large-scale dissemination and adoption of alternative cooking fuels, targeted communication and the related strategy are crucial.

An effective communication campaign around alternative cooking fuels will include a mix of means for increased impact, which further details can be found in Annex L.

By combining these different awareness campaign types, communication efforts will cover a large range of Gambians leading to being aware and motivating them to shift to more EE solutions. The communication strategy and awareness campaigns will be developed by consultants in close cooperation with local authorities including local representations department of forestry as well as the alternative cooking fuels producers, Africell and other demonstration project partners.

Output 3.1.2. Private companies and distributors as well as public and development institutions engaged in manufacturing and distribution of 5,000 ICS

Based on the reality on the ground and observations from stakeholders consultations during the PPG stage, the range of EE cook stoves has been extended to consider other modern cook stoves, which are better-suited for Gambian culinary needs. The range of stoves identified has the advantage of having been tested for adoption, affordability, and availability in other countries so the learning curve is expected to be shorter. However at the inception of the project, an assessment of existing solutions in the country and relevant ones abroad will be conducted in order to select the specific EE stoves adapted to The Gambians. It is worth mentioning, the FTT stove based on FAO's and WACCA's experience and its proven track record has been already identified and selected for the demo project on fish smoking (see below). The target is to reach 5,000 ICS in household and institutional/commercial stoves as well as EE cook stoves using different types of fuels.

In order to take into account resistance to change, it has been recommended by REAGAM, FAO, MoPE and private sector producers of ICS and cooking fuels producers including ABC Gaye Enterprises, GreenTech, Ger Bal and Musa Samoura to include the promotion of energy-efficient cook stoves using at least 50% less firewood or charcoal as part of a transition phase.

Furthermore, clean cooking for productive and institutional sectors are included e.g. fish smoking and school feeding, leveraging existing FAO projects. It is worth mentioning that these users are very relevant as they are responsible for a larger portion of fuelwood and charcoal consumption than household users. On average, most commercial stoves use more than 21kg of wood per day. Therefore, providing efficient solutions to this market segment will have a considerable impact on the Gambian population. Both demo projects on institutional/commercial stoves respectively on fish smoking and school feeding will encompass capacity building to manufacture these institutional/commercial stoves, will support access to relevant tools to build and maintain the stoves according to specific requirements and standards (see PC4) and will include some targeted awareness raising activities.

Activity 3.1.2.1. Implement demonstration projects

Three demonstration projects – one on household and two on institutional/commercial ICS - have already been selected and some funding has been reserved for additional demonstration projects or other activities to be allocated at project launch. These will support the dissemination of at least 5,000 EE cook stoves during the project duration.

Household and Institutional ICS

This demo project under the umbrella of The Gambian Clean Cooking Alliance envisages the introduction of high-quality ICS to The Gambian market through a semi-industrial manufacturing plant and proven last-mile distribution. This will include:

1. Establishment of a semi-industrial production plant to address issues related both to quality and quantity of ICS
2. Specialized training for decentralized producers to increase their production capacity and the quality of their household ICS
3. Last-mile distribution training for market players to increase the uptake for ICS especially in rural areas.

In order to ensure that the supply of targeted EE cook stoves is available and affordable for the end-users, the development of a centralized production line in close cooperation with successful entrepreneurs from Sierra Leone (West Wind Energy) will be supported by the project. West Wind Energy has manifested its interest to be involved in the UNIDO/GEF6 project at a recent workshop on standards and labels organized by West African Clean Cooking Alliance (WACCA) in Nigeria.

GEF funding will support USD 200,000 i.e. 29.4% of total demo project budget contributing to the plant infrastructure, equipment and training activities. The rest of the funding will be covered demo project promoters who will be selected.

School feeding with improved cook stoves (ICS)

In order to support the school feeding programme while fighting against deforestation and health issues, a school feeding demo project in 3 schools in 3 regions severely affected by deforestation (North Bank, Central River – North, Upper River – North) will be supported. FAO in collaboration with the Ministry of Basic & Secondary Education, the Department of Forestry and the UNIDO/GEF6 project will introduce institutional ICS in these 3 schools along with awareness raising for children and their parents on EE and its benefits on the environment and the population.

Fish smoking with ICS

In The Gambia, fish smoking is a women-led artisanal activity which is fuel-intensive and hazardous to human health. An ongoing FAO project supporting fish smoking focuses its activities on capacity building and entrepreneurship. Hence the UNIDO/GEF6 project will complement the ongoing efforts by introducing 10-20 FTT stoves in two highly dense fish smoking areas i.e. Tanji and Brufut, West Coast Area. The FTT stove was developed in Senegal and has a proven track record in Senegal, Ghana and Côte d'Ivoire.

Other potential demonstration projects

Discussions with other demonstration project applicants have taken place and will be finalized at project launch including the Household ICS with the Department of Community Development and the Abuka Pottery Center for mud and metal stoves.

This activity will be supervised by the PMO in close collaboration with the demonstration project holders and partners.

Activity 3.1.2.2. Evaluate demonstration projects

The goal of the activity is to evaluate the status the demonstration project implementation i.e. the performance of the sub-contractor to fulfill the objectives and indicators set by the project and to identify opportunities for project improvement, if any. Further details on the evaluation process can be found in Annex L.

Activity 3.1.2.3. Raise awareness on improved cook stoves

In order to ensure large scale dissemination and adoption of improved cook stoves, targeted communication and the related strategy are crucial.

An effective communication campaign around improved cook stoves will include a mix of means for increased impact. Further details can be found in Annex L.

By combining these different awareness campaigns, the communication efforts will reach a large range of Gambians actively motivating them to shift to more EE solutions.

The communication strategy and awareness campaigns will be developed by consultants in close cooperation with FAO, local authorities, women fish smoking associations, targeted schools administration as well as Africell and other demonstration project partners.

Output 3.1.3. Technical and marketing & distribution skills related to clean cooking solutions are built and 20 practitioners are trained

This output will enhance the existing capacities of ICS producers in The Gambia which are members of REAGAM and The Gambia Clean Cooking Alliance. To do so, trainings will encompass technical (including installation and maintenance) as well as marketing & distribution skills to support the uptake of quality products and services in the country. Besides, alternative cooking fuels producers will receive some training as part of demonstration project under this Output.

Activity 3.1.3.1. Identify capacity and knowledge gaps of key stakeholders on clean cooking solutions

A needs assessment in terms of capacity and knowledge of the ICS producers and distributors will be conducted to ensure that optimum results are obtained from the planned training activities. This assessment will be done through a focus group and field visits by a regional expert recommended by WACCA. Results of the process will be shared with

the respondents and next steps of the training process will be explained. This activity will be undertaken by ECREEE in collaboration with MoPE and PMO.

Activity 3.1.3.2. Develop training programme, implementation plan, training teams and training materials

The process for the selection of the training participants is crucial to ensure that suitable candidates are part of the training programme.

Selection criteria for the participants will include the following aspects:

- Relevant work experience in ICS
- Participation in previous trainings related to ICS or similar fields
- Current job as producer/distributor/user of ICS
- Motivation
- Gender and age
- Perceived impact of the training programme in the candidate's activities and for the project
- Province of residence

Equal opportunities should be given to men, women and youth.

A simple and straight forward application form based on the selection criteria will be prepared and shared with the applicants.

The selection procedure will be split in different steps as follows:

- i. Application form
- ii. Candidate preselection
- iii. Short interview
- iv. Final candidate selection

A small selection committee composed of the PMO and respectively one representative of the MoPE, NEA and TGSB will select the candidates for the training programme. Efforts will be made to ensure that at least 40% of the training participants are women, at least 40% are under 35 and a proportional representation from the different provinces in The Gambia is kept.

As women are primarily concerned with cooking, the project will ensure that women –particularly those who are located in communities adjacent to woodlots– are involved in the manufacture and commercialization of improved cook stoves and alternative cooking fuels in order to integrate them in the sustainable wood fuel supply and natural resource management. A total of twenty (20) market practitioners will be selected to participate in the trainings.

Based on the results of the needs assessment, a training programme with a work plan will be proposed. For each of the trainings, the objectives, expected learning outcomes, scope, structure, modules, number of trainers and participants as well as the required materials will be described.

Training will be provided by at least 2 successful EE stoves entrepreneurs from other Sub-Saharan countries to existing and new local EE stoves entrepreneurs providing special attention to youth and women. Besides, study tours and technology-transfer will be supported through South-South collaboration and the WACCA involving successful entrepreneurs in Nigeria, Sierra Leone, Ghana and Kenya sharing their experiences and knowledge from ICS mature markets where production is done at semi-industrial/industrial scale. Entrepreneurs in these countries have mastered low-cost designs which could be suitable to The Gambia culinary culture. As such, the training programme will be conducted by ECREEE/WACCA which already provide various trainings and study tours in the region.

Activity 3.1.3.3. Conduct trainings

The trainings will be mainly focused on practical exercises, field visits and study tours to facilitate understanding, attention, ownership and ability to share the acquired capacity to others including other producers and users. The necessary training materials will be provided to the participants.

Training sessions will be organized by the PMO in collaboration with the MoPE and conducted by selected successful ICS producers as part of South-South collaboration and the WACCA/ECREEE. The organization encompasses securing the venue and the necessary catering, sending the training materials for printing, administrative and logistic tasks, etc. The training sessions will be held in Banjul in the premises of ABC Gaye enterprises, an ICS manufacturer and demonstration project partner. The trainees will be accompanied during the process of formalizing the production and commercialization of efficient cook stoves through the creation of small size enterprises (SMEs). The training provision approach along with trainings held in existing premises will support not only cost optimization but also sustainability and replicability of the trainings during and after the project. At the end of each training an open session moderated by the trainer(s) on the objectives of the training and the learning and perceptions of the trainees as well as a short evaluation questionnaire will nourish the evaluation and continuous improvement of the training programme and the trainings. The evaluation of the trainings will be included in the training report. The establishment of the national platform combined to building capacity of markets enablers and players should support the overall market transition towards efficiency.

Output 3.1.4. Facilitating access to finance and other incentives for clean cooking solutions dissemination on the supply and demand side

Financing is considered one of the major obstacles to the uptake new technologies on both demand and supply side.

Activity 3.1.4.1. Design adapted financial mechanism(s) for clean cooking solutions

First, a preliminary assessment of the financial hurdles specific to each player of the value chain will be undertaken through a focus group session with relevant stakeholders. Based on the information collected, the appropriate financial mechanisms will be designed and implemented to support the dissemination and adoption of alternative cooking fuels and ICS at large scale in collaboration with financing institutions.

On the demand side, one of such schemes targets a micro-finance institution or partnering NGO. For larger stoves such as fish smoking stoves, a loan with a local financial institution could be put in place to support women cooperatives switch to a critical mass of EE commercial stoves.

On the supply side, financial institutions could support at least 2 producers/distributors of ICS and alternative cooking fuels.

Moreover, a Clean Cooking Revolving Fund with preferred interest rates both for the supply and demand could be located at a local financial institution with a proven track record of managing revolving funds for development projects. The starting capital would be provided by the GEF grant and its operation, growth and sustainability would be financed through the payback of the beneficiaries and the interest rates. A system whereby the GEF grant would subsidize the interest rate or provide partial loan guarantees has also been considered.

Once the appropriate financial mechanisms are designed, (i) the selection criteria and conditions as well as (ii) the possible GEF funding and co-financing and (iii) the financial institution partner(s) will be identified.

These options have been discussed with Ecobank at the PPG stage and could be extended to other financial institutions at project inception. However, the involvement of Ecobank could not be materialized. The Social Development Fund at a very low interest rate (about 2%) will be considered as well as other local financial institutions.

The activity will be developed with MoPE, NEA, and PURA in close collaboration with NAWEC, the Social Development Fund and other relevant financial institutions.

Activity 3.1.4.2. Train FI representatives on risks and opportunities of clean cooking solutions for the finance sector

In order to ensure an adapted design as well as a successful implementation and monitoring of the financing schemes, a dedicated training of at least 15 loan officers will be conducted and will focus on:

- Financial, environmental and social risks analysis for clean cooking opportunities

- Adoption of green finance practices
- Targeted clean cooking solutions including value chain, value generation, risks and mitigation actions, project lifetime, potential guarantees/collaterals

Trainees will have the opportunity of providing feedback on the proposed financial mechanism(s) in order to improve it prior to its implementation based on their field experience. The training will be conducted by regional ICS trainers in close collaboration with WACCA/ECREEE. The selection process will require that at least 40% of the participants be women, if possible.

Activity 3.1.4.3. Support sensitization on available financial mechanisms

Same as for Activities 3.1.1.3 and 3.1.2.3, awareness need to be raised on the financial mechanisms developed for both the demand and supply sides. The financial mechanisms will be included in the communication efforts in the two other activities specific to given EE appliances. These will encompass the following media: SMS, TV, radio, project website, social media, and printed media. The partnering FI is expected to support the targeted communication activities to advance the scaling up of EE appliances in The Gambia.

Activity 3.1.4.4. Evaluation of financial mechanisms

This activity will be covered by the partnering FI providing the financial mechanisms. In collaboration with PMO, the FI will define Key Performance Indicators (KPIs) to report on a regular basis on designed product sales, challenges and potential solutions. The PMO will undertake some cross-checks and randomly interview a sample of beneficiaries twice a year to monitor the performance of the financial mechanism.

As stated above, during the PPG phase, demonstration projects have been identified, evaluated and selected for Component 3. The detailed budget for each demonstration project is described in the table below. Please note that the projects marked in grey will be finalized at project launch.

PC3 - Clean Cooking	Total Demo Project Budget	GEF Grant
Alternative cooking fuels	\$500,000	\$150,000
FTT EE Stoves (fish-smoking)	\$331,000	\$100,000
Modern Production Plant (ICS for HH)	\$680,000	\$200,000
ICS at schools	\$230,000	\$50,000
Capacity building (technical & distribution) incl. study tours		\$45,000
Finance support / Revolving Fund		\$50,000
Other potential projects		\$102,500
Total	\$1,741,000	\$697,500

Project Component 3: Promoting the production and use of efficient cook stoves and alternative cooking fuels

Outcome 3.1. Increased production and use of efficient cook stoves and alternative cooking fuels

The component aims at supporting to the dissemination and adoption of improved cook stoves (ICS) and alternative cooking fuels across The Gambia.

Project Component 3: Promoting the production and use of efficient cook stoves and alternative cooking fuels	
<i>Output 3.1.1. 17,000t of agro-waste promoted as clean cooking fuels</i>	
Planned and Envisioned Activities	Main counterparts
Activity 3.1.1.1. Implement demonstration project	Demo project partners
Activity 3.1.1.2. Evaluate demonstration project	Evaluation team, MoPE, NEA, TGSB
Activity 3.1.1.3. Raise awareness on waste to energy for clean cooking fuels	ECREEE, Local authorities, alternative cooking fuels producers/distributors, Africell and National Platform, other demo project partners
<i>Output 3.1.2. Private companies and distributors as well as public and development institutions engaged in manufacturing and distribution of 5,000 ICS</i>	
Planned and Envisioned Activities	Main counterparts
Activity 3.1.2.1. Implement demonstration projects	Demo project partners
Activity 3.1.2.2. Evaluate demonstration projects	External evaluation team, MoPE, NEA, TGSB
Activity 3.1.2.3. Raise awareness on improved cook stoves	FAO, ECREEE, local authorities, fish smoking associations, school administration, Africell and other demo project partners
<i>Output 3.1.3. Technical and marketing & distribution skills related to clean cooking solutions are built and 20 practitioners are trained</i>	
Planned and Envisioned Activities	Main counterparts
Activity 3.1.3.1. Identify capacity and knowledge gaps of key stakeholders on clean cooking solutions	MoPE, WACCA/ECREEE and National Clean Cooking Energy Alliance
Activity 3.1.3.2. Develop training programme, implementation plan, training teams and training materials	WACCA/ECREEE
Activity 3.1.3.3. Conduct trainings	WACCA/ECREEE
<i>Output 3.1.4. Facilitating access to finance and other incentives for clean cooking solutions dissemination on the supply and demand side</i>	
Planned and Envisioned Activities	Main counterparts
Activity 3.1.4.1. Design adapted financial mechanism(s) for clean cooking solutions	MoPE, NEA, PURA, NAWEC, Social Development Fund and other relevant FIs
Activity 3.1.4.2. Train FI representatives on risks and opportunities of clean cooking solutions for the finance sector	WACCA/ECREEE, successful clean cooking solution entrepreneurs in the region as trainers
Activity 3.1.4.3. Support sensitization on available financial mechanisms	Partnering FIs, FAO, local authorities, Africell and other demo project partners
Activity 3.1.4.4. Evaluation of financial mechanisms	Partnering FIs

Component 4: Quality assurance

To increase confidence in the performance of selected electrical appliances, the project will adapt existing appliance performance labelling schemes from countries in the ECOWAS region and will introduce it to The Gambian market focusing on the most commonly used appliances.

In terms of standards for clean cooking, TGSB is closely working with the International Standardization Organization (ISO) and WACCA to develop standards for improved cook stoves and cooking fuels such as wood, charcoal, briquette and biochar, at international, regional and national levels. These standards are currently under review.

Output 4.1.1. National Quality Assurance Committee on EE Solutions established to develop performance labelling schemes for EE appliances and standards for clean cooking solutions

In order to develop and enforce quality among all targeted EE solutions, the project has deemed necessary to establish a dedicated working group with all relevant stakeholders on performance labelling schemes and quality standards.

Activity 4.1.1.1. Develop a National Quality Assurance Committee on EE Solutions

Under the successful National Electro-technical Committee (NEC) led by the TGSB, a National Quality Assurance Committee on EE Solutions for standards, testing and certification on EE solutions targeted by the project will be put in place and its results will be reported directly to the National Platform for nexus issues (PC1). The Terms of Reference including objectives, members, activities, meeting frequency, working groups and budget will be developed at project launch.

This activity will be led by TGSB, which has the mandate to develop standards and has the required experience to conduct this activity as a result of its active involvement in the technical committee of ECOSHAM. It is worth mentioning that quality assurance is one of the key components of ECREEE's activities. Specific quality standards are under development for EE in buildings and for appliances. These activities will be implemented in The Gambia to ensure the country is in line with regional directives.

Activity 4.1.1.2. Establish and build capacity to enforce standards and performance labelling schemes

The Committee will lead the development of relevant performance labelling schemes for EE appliances (at least 1) as well as quality standard for clean cooking solutions. They will also include the testing protocols to be further developed in Activity 4.1.2.2 where the capacity of TGSB for testing will be enhanced.

As stated above, existing successful schemes and standards in the region and beyond will be benchmarked and analyzed while adapting them to local realities. This will save time and resources. In order to ensure efficient adoption and use of quality measures, the Committee will also develop an enforcement plan especially with the PURA representative of the Committee. Also, it will develop certification processes for products as well as human resources including installers of EE appliances and producers of clean cooking solutions.

This activity will be done by the National Quality Assurance Committee on EE Solutions.

Activity 4.1.1.3. Get feedback from the national platform for energy nexus issues and disseminate the quality assurance information

Once all quality measures and related implementation plan are developed, the National Quality Assurance Committee on EE Solutions shall present them to the members of the national platform for energy nexus issues and seek their feedback and validation. The Committee will finalize all the deliverables and disseminate the information on quality assurance to facilitate the adoption and use of the quality assurance tools. This activity will be done by the National Quality Assurance for EE Solutions National Quality Assurance Committee on EE Solutions.

Output 4.1.2. Performance labelling scheme for EE appliances and standards for clean cooking operationalized

A laboratory for the targeted EE solutions is required to ensure the quality of the products and the services/human resources.

On the soft side of activities for the quality assurance:

- Trainings on quality assurance of all targeted energy-efficient solutions
- Trainings on testing capacities including relevant testing protocols
- Installers certification (e.g. not only certification of products but also of human resources for the installation and maintenance of such EE solutions)
- Trainings for other relevant stakeholders on the standards/performance labelling schemes (certification agents, PURA, customs officials, etc.)

Activity 4.1.2.1. Establish a clean cooking and an EE appliances testing laboratory

The development of standards and performance labelling schemes will only be effective if market players such as TGSB are able to conduct quality assurance and quality control through testing, inspecting and certification. However, there are no testing capacities in The Gambia and products are tested and certified with partner laboratories abroad, often

located in Senegal and Europe. Hence a basic laboratory for these EE solutions is needed. This UNIDO/GEF6 project will equip TGSB with a basic laboratory for cook stoves. In order to do so, UNIDO will support TGSB by putting in place an open and competitive bidding process to identify companies with the expertise to procure and install the selected equipment (Annex J). The TORs for these services will be developed at the inception phase of the project.

This activity will be led by TGSB in close consultations with the Trade, Investment and Innovation Department of UNIDO, as well as ECREEE and WACCA, which is currently developing regional standards.

Activity 4.1.2.2. Develop the testing and quality assurance capacity of TGSB

Skills in terms of testing and quality assurance at TGSB closely linked to the laboratory are crucial for efficient quality control. These skills include:

- Understanding, developing and applying testing protocols and processes.
- Using the laboratory equipment incl. calibration, maintenance, etc.
- Drawing and presenting conclusions and recommendations of the tests in terms of quality assurance.

The trainings will be provided to targeted TGSB staff by external trainers specialized in the field and ECREEE. TGSB will also undertake study tours to Senegal (CERER) and Ghana (CSIR or KNUST) to visit testing labs in these countries and benefit from capacity-building activities conducted at those centers. Efforts will be made to ensure that at least 40% of the training participants are women.

Activity 4.1.2.3. Develop the capacity of and certify installers of EE solutions

Based on the developed certification process for installers by the National Quality Assurance Committee on EE Solutions, installers of EE appliances and ICS will be trained and certified officially as installers. Certification modules per EE solution type will be offered (e.g. ICS certification module, EE lighting certification module, etc.) and it will include: theoretical knowledge, installation, service and system components.

The selection process for the training participants is crucial to ensure that suitable candidates are part of the training programme. The selection criteria of the participants i.e. installers of EE solutions may include the following aspects:

- Relevant work experience i.e. a minimum of hours of installation of a given EE solution
- Participation in previous trainings related to installation of the given EE solution
- Current job related to EE solutions
- Motivation
- Gender and age
- Perceived impact of the training programme in the candidate's activities and for the project
- Province of residence

Equal opportunities should be given to men, women and youth.

A simple and straight forward application form based on the selection criteria will be prepared and shared with the applicants with the support of ECREEE's entrepreneurship training programme.

The selection procedure will be split in different steps as follows:

- i. Application: form and resume
- ii. Candidate preselection
- iii. Short interview
- iv. Final candidate selection

A small selection committee composed of the PMO and respectively one representative of the MoPE, NEA and TGSB will select the candidates for the training programme. 20 installers should be trained by external trainers together with TGSB and ECREEE. Efforts will be made to ensure that at least 40% of the training participants are women and a proportional representation from the different provinces in The Gambia is kept. This activity will be coordinated with TGSB and ECREEE.

Activity 4.1.2.4. Deliver training on developed quality standards and performance labelling scheme to key stakeholders

Training on the developed quality standards for clean cooking solutions and performance labelling schemes for EE appliances will be delivered to at least 40 relevant stakeholders including:

- Importers/distributors of EE appliances
- Producers/distributors of clean cooking solutions
- Consumer associations
- Professional associations (Tourism & Travel Association of the Gambia, Women fish smoking associations, GCCCI sub-groups, etc.)

A small committee composed of the PMO and respectively one representative of the MoPE, NEA and TGSB will make the selection. Efforts will be made to ensure at least 40% of the training participants are women and a proportional representation from the different provinces in The Gambia.

Project Component 4: Quality assurance

Outcome 4.1. Increased national capacity to uptake energy efficient appliances and clean cooking solutions in compliance with quality standards

The component aims at ensuring quality assurance and control for EE solutions via performance labelling schemes for EE appliances and quality standards for improved cook stoves.

Output 4.1.1. National Quality Assurance Committee on EE Solutions established to develop performance labelling schemes for EE appliances and standards for clean cooking solutions

<i>Planned and Envisioned Activities</i>	<i>Main counterparts</i>
Activity 4.1.1.1. Develop a National Quality Assurance for EE Solutions Committee	TGSB
Activity 4.1.1.2. Establish and build capacity to enforce standards and performance labelling schemes	National Quality Assurance Committee on EE Solutions
Activity 4.1.1.3. Get feedback from the national platform for energy nexus issues and disseminate the quality assurance information	National Quality Assurance Committee on EE Solutions

Output 4.1.2. Performance labelling scheme for EE appliances and standards for clean cooking operationalized

<i>Planned and Envisioned Activities</i>	<i>Main counterparts</i>
Activity 4.1.2.1. Establish a clean cooking and an EE appliances testing laboratory	Trade & Capacity Building department at UNIDO and TGSB with support of WACCA
Activity 4.1.2.2. Develop the testing and quality assurance capacity of TGSB	TGSB and ECREEE
Activity 4.1.2.3. Develop the capacity of and certify installers of EE solutions	TGSB and ECREEE
Activity 4.1.2.4. Deliver training on developed quality standards and performance labelling scheme to key stakeholders	TGSB

Component 5: Monitoring & Evaluation

The objective of this component is to facilitate a detailed and extensive M&E structure to be put in place in compliance with UNIDO and GEF procedures. This will allow not only the monitoring of the project's progress but also the construction of an overall project impact assessment on a rolling basis. The thorough analysis of the M&E and impact assessment results of the different components will allow for periodic reviews of the project's 'Theory of Change' and subsequent implementation strategies as well as work plans. Component 5 on M&E will also include developing and regularly updating a project website incl. project milestones and reports, case studies/demo projects, etc.

Output 5.1.1 Initial environmental impact assessment carried out

Activity 5.1.1.1 Undertake the Environmental Impact Assessment

At the beginning of the project, the National Environmental Agency of The Gambia (NEA), GEF Operational Focal Point, undertakes an Environmental Impact Assessment (EIA). The EIA is systematic and required to be undertaken by the NEA as stipulated in the National Environment Management Act of 1994 (NEMA).

This assessment evaluates the risks of the project towards the environment and identifies how to mitigate these risks. Funds have been allocated to this activity within the budget of the project.

The EIA is composed of different steps namely:

- Initial screening
- Preliminary assessment
- Scoping
- Environmental impact study
- Review of the impact study
- Environmental clearance
- Auditing

The activity will be led by the NEA with the support of the PMO. In addition, ECREEE will undertake under its programmes in The Gambia an environmental assessment.

Output 5.1.2 Project progress monitored, documented and recommended actions formulated

Activity 5.1.2.1. Design M&E framework

The PMO in close collaboration with the UNIDO project manager will develop a detailed work plan for the execution of the project incl. activities, schedule, roles and responsibilities, milestones, etc. The work plan must consist of all the necessary items to be covered during project implementation following GEF and UNIDO standards procedures. The work plan will be based upon the logical framework which includes baselines, indicators and targets for each outcome and output to allow or later comparison against achievements during evaluations.

A proper M&E framework consists of the following processes:

- Monitoring refers to the continuous and systematic process of collecting data on the agreed indicators to evaluate the effectiveness of the activities implemented and provide information on the progress made. The monitoring should be conducted following specific procedures to collect and manage information, data, and variables. Based on the work plan, a monitoring plan should be developed indicating for each output and indicator:
 - Measurement method/formula to be used
 - Data sources (who will give the data)
 - Collection method (questionnaire, survey, focus group, report, etc.)
 - Frequency of data collection
 - Person in charge respectively for data collection, verification, processing and analysis
 - Collection resources (financial and non-financial)
- Evaluation refers to the action of assessing the achievements in comparison to the original baseline scenario and to the expected targets at any given moment during implementation. This will help the evaluator to understand whether the objectives set for each indicator were met. This comparison enables the evaluator to identify delays or deviations and to take corrective actions accordingly. Proper monitoring is vital to conducting a successful evaluation which has to be always in accordance with the type of activity under execution and the targets. Reporting refers to the systematic and timely provision of essential and useful information showing how the project is progressing towards achieving its goals. It should take place at periodic intervals and should result in publication of a simple report indicating the expected objectives and achievements as well as any problems faced during the reporting period.

As such, the M&E framework should include:

- Measuring the GEF Tracking Tool specific indicators

- Monitoring project impact indicators (as per Log Frame)
- Monitoring the indicators for the Environmental & Sustainability Management Plan developed and monitored by the NEA for any GEF project
- Drafting the progress implementation reports and adapt the recommendations in the yearly work plan
- Organize project steering committee meetings at least once a year

ECREEE will also be supportive in terms of M&E framework design and implementation as part of its programmes in the country to ensure that key indicators are tracked.

Activity 5.1.2.2. Implement M&E framework

The M&E framework will be applied as described in Activity 5.1.2.1. The M&E plan will be reviewed and update regularly based on the results achieved during project implementation. The PMO will be responsible for the day-to-day management and monitoring of project activities and will coordinate all project activities carried out by project experts and partners.

Activity 5.1.2.3. Develop and maintain the project website

The project website will be developed in collaboration with UNIDO, the PMO, MoPE, NEA and TGSB. It will be act as the main communication and dissemination channel used throughout the implementation of the project to keep the population and the stakeholders informed about the project and its progress. It will be designed by a web designer in collaboration with UNIDO, the PMO, MoPE, NEA and TGSB. The website will be hosted by the MoPE. Day-to-day maintenance of the site as well as updates will be under the responsibility of the PMO.

Output 5.1.3. Terminal evaluation carried out

Activity 5.1.3.1. Prepare and coordinate independent terminal evaluation

UNIDO's Office of Independent Evaluation and Quality Monitoring will prepare the ToRs for the recruitment of the international evaluator that will perform the terminal evaluation of the project. Achievements made identified and compared against baseline and targets as stated in the log frame in order to evaluate the overall project performance during operation. Since this project falls under GEF CCM-1 Programme 1 "promote the timely development, demonstration and financing of low carbon technologies and mitigation options", achieved GHG emission reductions will be evaluated and reported.

Project Component 5: Monitoring and Evaluation	
<i>Outcome 5.1. Monitoring of results and evaluation</i>	
The component aims at monitoring and evaluating the results of the project implementation	
<i>Output 5.1.1. Initial environmental impact assessment carried out</i>	
<i>Planned and Envisioned Activities</i>	<i>Main counterparts</i>
Activity 5.1.1.1. Undertake the Environmental Impact Assessment	NEA
<i>Output 5.1.2. Project progress monitored, documented and recommended actions formulated</i>	
Activity 5.1.2.1. Design M&E framework	PMO
Activity 5.1.2.2. Implement M&E framework	PMO
Activity 5.1.2.3. Develop and maintain he project website	PMO, MoPE, NEA, TGSB
<i>Output 5.1.3. Terminal evaluation carried out</i>	
<i>Planned and Envisioned Activities</i>	<i>Main counterparts</i>
Activity 5.1.3.1. Prepare and coordinate independent terminal evaluation	International evaluator, MoPE, PMO

4. Incremental cost reasoning and expected contributions from the baseline with GEFTE and co-financing

GEF financing will be used for incremental costs in this project by supporting catalytic activities under the four technical components. In particular, the GEF financing will support the set-up of a multi-sector institutional platform in order to establish a holistic approach on how to jointly articulate policies, programmes and projects. It will also support the revision of these policies based on implementation of the project components 2, 3 and 4. Under the climate change focal area, the project will provide a scheme for assessment and reporting on climate mitigation activities in order to support the country in monitoring its Intended Nationally Determined Contributions.

Component 1 will catalyze the systematic integration of sustainable energy options across sectors hence promoting greater replication and scaling up of the interventions in this project. Under Component 2 and 3, the project will incentivize the private sector to invest and develop business models to promote the use and manufacture of efficient appliances as well as improved cook stoves and alternative fuels. Under Component 4, the GEF grant will contribute to significantly enhance the capacity of TGSB which has the mandate to provide quality assurance for products available in The Gambian market. This component will also support the development and enforcement performance labelling schemes for targeted appliances facilitating the market uptake of efficient cook stoves, lamps, and refrigeration appliances, among others. Experience in countries within the ECOWAS region –such as Ghana– has proven that projects focusing on improving the energy performance of appliances have a great potential to leverage private sector investment opportunities and to ensure market sustainability beyond the project implementation period. The high level of commitment and ownership showed by national stakeholders including the private sector during the PPG phase is an encouraging sign of sustainability potential of the project. Finally, these interventions will catalyze market-based adoption of these technologies achieving a transformational impact on the energy sector in The Gambia and significantly contributing to GHG mitigation efforts.

The co-financing strategy of the project aims at showcasing the commitment of relevant stakeholders in promoting EE solutions and measures across the country as well as contributing to sustainability of such initiatives after the end of the project. As the project targets the adoption of EE solutions at large scale and EE is a cross-sectorial concern, different types of stakeholders were approached to co-finance the project. As the project adopted a market-based approach, leveraging the private sector engagement was crucial in addition to the efforts of the latter in demonstrating the importance and benefits of EE solutions. Private sector players in different fields were approached; co-financing commitments from the telecom, agriculture, oil & gas as well as banking sectors were obtained. As FAO is very active in The Gambia and also an executing agency of the GEF, synergies in the field of community gardens, fish smoking and school feeding were identified leading to FAO co-financing this project. Last but not least, the involvement of national authorities is essential for the successful implementation and sustainability of the project: hence MoPE committed to co-finance the project.

5. Global environmental and social benefits

The efficient lighting, refrigeration and air conditioning (RACs) component will replace energy-intensive light bulbs and appliances used by households and other sectors with their EE equivalents. The expected reduction of energy consumption by households will alleviate the grid peak load and will significantly reduce GHG emissions as the electricity production in The Gambia is based on fossil fuels. In addition, the efficient cooking component of the project will support the articulation of energy policies on land resources management strategies as a timely response to the threat of deforestation due partly to climate change and unsustainable wood fuel supply. As such, Component 3 provides carbon benefits, as well as the social and environmental benefits that forests can provide as an ecosystem. Other social benefits of Components 2 and 3 include the decrease of end-users energy bills which translates in a higher availability of financial resources to be designated for other purposes. The project recognizes women's role in the use of local natural resources and will therefore contribute to building their capacities and ensuring their effective participation in management of alternative energy supply options throughout the value chains ensuring that both men and women equally benefit and contribute to the creation of environmental and social benefits.

The project activities on Climate Change focal area will directly reduce 316,443 tCO₂eq by switching to efficient lighting, heat pump chillers, solar water heaters and other RACs as well as the adoption of improved cooking devices

and cleaner cooking fuels. Given the catalytic nature of the project, it is envisaged that further integration of efficient appliances and use of efficient cooking devices will occur exponentially especially as the nexus approach –promoted under component 1– begins to influence the decision-making process. It is expected that once the private sector acknowledges the financial viability of EE solutions; it will systematically integrate these measures. As such a replication factor of 4 is justifiable resulting in further cumulative emission reductions of 1,265,774.8 tCO₂eq. More detailed calculations will be conducted during the inception phase especially after the technology model selection on EE appliances and ICS as well as the demo project evaluation outputs.

The current calculations are based on:

- For EE appliances- the software developed by the US Department of Energy using data of The Gambia including the grid emission factor (0.682 tCO₂e per MWh) and average electricity tariffs (USD 0.28 per kWh) as inputs.
- For clean cooking solutions- the First National Communication of The Republic of The Gambia to The United Nations Framework Convention on Climate Change which assumes that 1 kg wood emits (0.5*44/12) 1.8333 kg CO₂e and EE rates of the stoves.

6. Innovation, sustainability and potential for replication and scaling up

Innovation- Being the first country in the world to develop and implement the SE4All Action Plan shows that The Gambia is in itself an being innovation as it proves that the country resorted to exceptional efforts to achieve such a feat.ve in the sustainable energy field and EE in particular. The main innovation under this project is the systemic approach at the institutional level to incorporate energy in other sectors in order to address the global environmental and development concerns in an integrated manner. The nexus approach and its institutionalization will ensure that holistic interventions are developed and implemented to maximize development impact and effective use of limited financial resources. Additionally, the project has already contributed to behavioral change within a major private sector and financial actors. For instance, Petrogas –an oil company–has agreed to offer EE technologies in its gas stations including LED lighting. Besides, the involvement of private banks in EE projects, especially on the demand side, is not common as the opportunities and risks of such intervention are rarely understood by the financial institutions staff. Local financial institutions will support the financing of EE interventions through the design and implementation of appropriate financial mechanisms for EE appliances and clean cooking solutions respectively while the project will provide capacity building to conduct the necessary assessments for EE solutions.

Sustainability- The project will collaborate with the private sector under Component 2 and 3 to establish business models for promoting investments thereby ensuring a continued public interest in the adoption of these technologies well after the end of the project. Furthermore, the project will strengthen the capacity of TGSB to be able to operate labelling scheme including local testing and certification ensuring quality beyond the life of this project. By training local professionals and supporting the market for EE appliances and cook stoves as well as alternative cooking fuels, private enterprises will continue to advance the nascent local EE market. It is envisaged that SMEs involved in the demonstration projects will become profitable and therefore, will have the means to operate their business without additional grant support. Besides by designing and operationalizing catered financial mechanisms, the project will help the private sector and end users to produce, distribute, and use EE solutions even after the end of the project. At the institutional level, the National Platform on Nexus Issues should be able to outlast the project as it does not represent a significant financial burden to the member organizations.

Scaling-up-

- **Geographical scope:**
The project targets the Greater Banjul area and a few other provinces. Based on the success of the EE technologies and the capacity-building activities, the project undertakings could be expanded to other areas of The Gambia allowing the private sector actors to reach the market beyond the areas covered by the project.
- **Market-based approach & relevant financial schemes:**

The market-based approach and catered financial mechanisms further support the replication potential across the country and in the region as the main constraints to sustainability and up-scaling of bottom-up energy solutions are initial funding, institutionalized support and information access.

- Holistic approach around natural resources management and clean cooking:

The project builds on the success and momentum of The Gambia's Community Forestry Policy as one of the world's most inspiring and innovative forest policies focusing on improved cook stoves as an integral part. Findings from the project component on clean cooking will contribute to building up a holistic approach for clean cooking access strategies including direct linkages with programmes under natural resource management as well as climate change mitigation enabling the national nexus platform to make informed decisions with long reaching consequences. The capacity-building component will provide a holistic approach for establishing and upholding of standards by the national institutions as well as the private sector in relation with sustainable cooking fuel supply. It will also ensure replication of pilots to be undertaken within the project and well after the project is completed.

A.2. Child Project? If this is a child project under a program, describe how the components contribute to the overall program impact.

N/A

A.3. Stakeholders. Identify key stakeholders and elaborate on how the key stakeholders' engagement is incorporated in the preparation and implementation of the project. Do they include civil society organizations (yes ☒ /no ☐)? and indigenous peoples (yes ☐ /no ☒)? ¹⁸

This UNIDO/GEF6 project aims at targeting not only The Gambian people on a larger scale but also at being as country-driven as possible to ensure the sustainability of all EE solutions and measures promoted. As such, many stakeholder consultations –designed to be as inclusive as possible– took place during the PPG phase. The stakeholder consultation workshop, in addition to the 1-to-1 meetings, paved the way for concrete involvement and commitment of all relevant actors. The stakeholder consultation reached out to government agencies, multilateral organizations, development agencies, academia, private sector, financial institutions and civil society organizations. It must be noted that indigenous people will not be impacted nor involved in this project.

The project features direct participation of local communities in managing local resources to ensure a more sustainable use of the scarce energy resources. In areas where demonstration projects will be located, the project has been actively engaging with community-based organizations to integrate their concerns as well as their expectations into the project processes. This approach will continue through the whole implementation of the project. The demo projects within the efficient lighting and refrigeration component will be implemented in close collaboration with end-users, particularly those active in consumers associations in order to have a clear identification of needs and propose solutions that assist in making decisions.

The following table describes the roles of the different stakeholders that will be involved during project implementation.

Stakeholder	Role
MoPE	The MoPE's mandate is to harness and promote the country's energy potentials for development through negotiating the award of exploration and production licenses, negotiating bilateral and multilateral cooperation agreements, developing policies and strategies to enhance the development of the energy industry. MoPE will host and provide partial logistics (transportation, stationery, communications, etc.) as well as technical support to the PMO as part of its co-financing. The MoPE is in the process of revising the Renewable Energy Act (RE Act)

¹⁸ As per the GEF-6 Corporate Results Framework in the GEF Programming Directions and GEF-6 Gender Core Indicators in the Gender Equality Action Plan, provide information on these specific indicators on stakeholders (including civil society organization and indigenous peoples) and gender.

	including mainstreaming gender and anticipate the project needs in terms of EE to be integrated into the RE Act. It shall also take into account the expected outputs in other policies such as the upcoming Building Policy to include EE solutions. It will also support the project in terms of monitoring & evaluation (Component 5) ensuring the linkages and cross- fertilization of the project activities with other ongoing activities, in particular the GEF 4 and 5 projects.
MoTIE	In pursuance of the objectives of the Programme for Accelerated Growth and Employment (PAGE) and the Country's overall development strategy as enshrined in Vision 2020, the Ministry of Trade, Industry, Regional Integration and Employment (MOTIE) continues to formulate and implement policy measures that facilitate the creation of an efficient and effective environment for private sector-led development. MoTIE will support the project by including the missing EE technologies into the 2010 Gambia Investment & Export Promotion Act (GIPA) and will be part of the platform created under Component 1.
Ministry of Forestry and the Environment (MOFEN)	The MOFEN was created in 1976 to ensure the sustainable use and protection of all forests in The Gambia excluding private plantations. In addition, it is responsible for co-operating and liaising with national and international organizations on forestry matters in particular a national forest inventory which takes place every ten years. The Ministry will play a central role in Component 3 related to clean cooking as the increased adoption of ICS and alternative cooking fuels is expected to have a positive impact in the deforestation rate.
Ministry of Agriculture	The Ministry of Agriculture aims to increase the agricultural output, to meet the food requirements of the population, to provide employment and regular income to the agricultural labour force and to generate revenue through value-added agricultural related activities. The Ministry will be part of the platform created under Component 1 and will support activities conducted under Component 3. Besides, the Ministry has many projects that could benefit from energy efficiency especially for post-harvest activities including conservation and food processing.
NEA	NEA is responsible for ensuring an environmentally sustainable economic and social development as well as to have a legal recognition of the fundamental right to a sound environment, ensuring the health and well-being of all those living in The Gambia as established under the Its main goals were established in the National Environment Management Act 1994. NEA will lead the Project Steering Committee as the GEF Operational Focal Point. It will support the monitoring of the project through an Environmental Impact Assessment. Besides, NEA will collaborate in the National EE solutions Standards Committee to be created by the project and led by the TGSB
West African Clean Cooking Alliance (WACCA) through ECREEE	ECREEE initiated a regional Cooking Energy initiative called West African Clean Cooking Alliance (WACCA). It was officially launched during the ECOWAS High Level Energy Meeting in 2012. The overall objective of the initiative is to provide access to efficient, sustainable and affordable cooking energy in the entire ECOWAS region. Under Component 3 and 4, WACCA will closely work together with the National Clean Cooking Energy Alliance to build capacity in clean cooking while promoting south-south knowledge sharing in terms of technologies and innovations.
NAWEC	The National Water and Electricity Company is responsible to ensure the safe, effective and efficient provision of affordable nationwide electricity, water and sewerage services to satisfy consumer requirements, generate reasonable rates of return on investments and contribute to the socio-economic development of The Gambia. As the public utility, NAWEC will play a central role in the nexus platform established under Component 1 as well as in the pilot project under Component 2 dealing with the replacement of incandescent bulbs used for street lights for LED bulbs. As NAWEC is facing tremendous challenges on its grid, low hanging fruits of cost savings via EE will have a huge impact in the high pressure exerted on the grid enabling to divert power to other requesters.
TGSB	The main purpose of The Gambia Standards Bureau (TGSB) is to standardize methods, processes and products, both imported and locally produced. It promotes standardization, conformity assessment and metrology in the fields of industry and commerce to support

	industrial efficiency and development. Additionally, it disseminates and promotes standards for public welfare, health and safety. TGSB will support Component 4 especially on quality related topics around the EE solutions targeted by the project. It will develop standards and labelling schemes, ensure testing and certifications. TGSB will lead the National EE solutions Standards Committee to be created by the project.
NRA	The National Roads Authority is responsible for the administration, control, construction and maintenance of all roads in The Gambia. As part of its mandate NRA provides maintenance to street and traffic lights while building capacity for Engineers, Technicians and support Staff. NRA in close cooperation with NAWEC will lead a pilot project under Component 2 dealing with the replacement of incandescent bulbs used for street lights for LED bulbs.
Women's Bureau	Women's Bureau –under the Department of State For Women's Affairs– is the Secretariat for the National Women's Council (NWC). The bureau currently focuses on information collection, distribution, and research. Besides, it assists the NWC in looking for trends and creating ties with other institutions on the socio-economic and political front, reviewing bills, laws, programmes, new technologies, policies, and giving out pertinent information for the country's leading decision making. During the project, it is expected that the Bureau takes a front role in the coordination of women's issues in close cooperation with ECOWGEN which could provide remote support (i.e. expert advice, guidelines, etc.) to guarantee that gender considerations are taken into consideration during project implementation.
Africell	In 2001, Africell was first launched in The Gambia with an ambitious aim to make a difference not only in Communication but also in the Community. Africell, one of the main telecom operators will support the project by rolling-out an SMS campaign to its 1.5 million subscribers (about 75% of the population). Besides, it plans to become more EE in its 128 base stations which provides 3G across the country.
Petrogas	Petrogas, an oil company, is committed to reduce its carbon footprint and to champion corporate social responsibility. As such, their gas station network across the country will act as collection points of used light bulbs and supporting the use of LED technology for lighting.
Balafon Limited Company	The Balafon Company will soon have 5 different hotel resorts in its portfolio for which it has started shifting towards more EE solutions (in total: 4,800LED light bulbs, 2,225 EE A/Cs, 250 EE refrigerators, 175 solar water heaters). It will not only represent an example in the tourism and private sector in general in The Gambia but also an example of going green abroad through its tourists and tour operators it is working with.
FAO	Since the establishment of the FAO Representation in the Republic of the Gambia in 1978, the main function of the office has been to assist Government to develop policies, programmes and projects in order to reduce hunger and malnutrition, help develop the agriculture, fisheries and forestry sectors and to use their environmental and natural resource in a sustainable way. The ongoing activities carried out by FAO on food processing will be complimented by the integration of the energy dimension under Component 3 which covers clean cooking. Some of the activities that will be supported by FAO include advocacy and awareness creation, implementation of field programmes and projects, etc. As such synergies will be leveraged between projects to improve livelihoods of targeted communities.
SMEs	<p>Several SMEs are expected to actively be involved in the project including ABC Gaye Enterprises, an EE cook stoves provider, Greentech a briquette and (upcoming) biochar producer, Ger Bal and Musa Samoura both biochar producers as well as cook stove and alternative fuels producers from other African countries including West Wind Energy from Sierra Leone. They will support the production and distribution of clean cooking solutions as well as providing training and coaching to local artisans under Component 3.</p> <p>Besides, other private companies will support the dissemination of targeted EE solutions such as local private EE light bulbs and RACs distributors e.g. Gambia Electrical Company or MFH Group under Component 2. The hospitality & tourism sector is very interested in continue to shift towards more EE solutions including the Kairaba Hotel, Sheraton and the Balafon Resort.</p>

Non-governmental organizations	Mbolo Association, the Renewable Energy Association of Gambia (REAGAM), and The Gambia Chamber of Commerce and Industry (GCCCI) will also be involved in the project execution building from the partnership created through the implementation of several initiatives under the GEF 4 and 5 projects.
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A.4. Gender Equality and Women's Empowerment. Elaborate on how gender equality and women's empowerment issues are mainstreamed into the project implementation and monitoring, taking into account the differences, needs, roles and priorities of women and men. In addition, 1) did the project conduct a gender analysis during project preparation (yes ☒ /no ☐)?; 2) did the project incorporate a gender responsive project results framework, including sex-disaggregated indicators (yes ☒ /no ☐)?; and 3) what is the share of women and men direct beneficiaries (women 40% (at least), men 60%)? ¹⁹

According to UNIDO Policy on Gender Equality and the Empowerment of Women, gender equality, the empowerment of women (GEEW) and the access to sustainable energy have a significant positive impact on sustained economic growth and inclusive industrial development; besides, being key drivers of poverty alleviation and social integration.

Sustainable energy interventions are expected to have an impact on people and are, therefore, not gender-neutral. In fact, due to diverging needs and rights regarding energy consumption and production, women and men are expected to be affected differently by the project in terms of their rights, needs, roles, opportunities, etc. Therefore, the project aims to demonstrate good practices in mainstreaming gender aspects into sustainable energy projects, wherever possible and avoid negative impacts on people, due to their gender. Consequently, gender dimensions will be considered throughout the whole project cycle, although, depending on the type of intervention and scope of activity, the degree of relevance of gender dimensions may vary.

The project integrates a strong gender component which is and will be reflected in all its activities from design to execution and monitoring of results. By addressing the need of access to clean, safe and affordable energy for cooking, the project recognizes the importance of gender-positive impacts on the management of local energy resources. As women are primarily concerned with the collection and use of fuelwood, they face a higher impact by the scarcity of wood resources due to deforestation and are also suffering relatively more due to other aspects such as indoor air pollution and time scarcity. The identification of the efficient cooking energy project as priority in the Government Agenda towards SE4All is drawn from a community request to tackle health related problems and resources availability concerns due to inefficient and unsustainable use of fuelwood.

The guiding principle of the project will be to ensure that both women and men are provided with equal opportunities to access, guide, participate in and benefit from the project. In practical terms:

- The project will ensure throughout the whole cycle –from needs assessment to the update of policies– women and men's differentiated needs and advocacy are fairly taken into account. For these purposes, women groups and associations, gender experts and/or other stakeholders concerned with gender and energy will be consulted.
- The project will also foster capacity-building for women regarding better management of local resources. This will ensure that the business models integrate women's willingness and ability to access the efficient appliances and devices.
- When data collection or assessments are conducted, gender dimensions will be considered including gender-disaggregated data collection and performing gender analysis as part of ESMPs. For instance, gender-sensitive data will be collected throughout the project implementation ensuring close monitoring of gender-related indicators to adjust the intervention whenever needed and improve the indicators during the project implementation.

¹⁹ Same as footnote 8 above.

- Gender-sensitive recruitment will be practiced at all levels, especially in the selection of project staff to ensure diversity in team composition. Furthermore, whenever possible, existing staff will be trained and their awareness regarding gender issues will be raised.
- All decision-making processes will consider gender dimensions. Also at the level of project activity implementation, efforts will be made to consult with stakeholders, focusing on gender equality and women's empowerment. This is especially relevant in policy review and formulation as well as in capacity building activities.

Based on the [UNIDO Gender Mainstreaming guidelines](#) for energy and environment management projects, the project started screening gender status in The Gambia during the PPG phase but a comprehensive gender assessment will be carried out during project inception.

As for the share of women/men per project component, the breakdown will be as follows:

- Component 1: 40% of the representatives of the members of the National Platform for Energy Nexus Issues are women as stated in the TORs of the National Platform.
- Component 2: street lights, EE light bulbs in buildings and houses, other EE appliances
 - Direct beneficiaries:
 - 520,000 women and 480,000 men. Based on the targeted EE appliances, about half of the population (1 million inhabitants) will be benefited especially via increased EE streetlights and a more reliable telecom network. Out of the 1 million beneficiaries, 52% are women and 48% are men.

Indirect beneficiaries:

- 260,000 women and 240,000 men. The project assumes an additional 500,000 beneficiaries including tourists and visitors of various buildings and houses where EE solutions were installed.
- Component 3: improved cook stoves and modern cooking fuels
 - Direct beneficiaries:
 - 80,000 women producing, using and distributing improved cook stoves and modern fuels and 3,094 men producers and distributors of improved cook stoves and alternative cooking fuels. The project assumes a total of 80,000 women; whereby 35,000 households in which 1 woman and 1 house help or a grown-up daughter supports with the cooking chores (70,000 women) and 10,000 women will be involved in the commercial use, production and distribution of ICS and alternative cooking fuels. As for the men, the project assumes a total of 3,094 men; whereby 3,000 cashew farmers will sell pruned wood, 4 producers of alternative fuels, their 30 employees and 60 retailers are involved in the commercial use, production and distribution of ICS and alternative cooking fuels.
 - Indirect beneficiaries:
 - 50,000 children mostly under 5 who are usually with their mothers while cooking. The project assumes that out of the 80,000 women about 50,000 are between 20-40 years old and hence have at least one child under the age of 5.
 - 160,000 family members other than the mother and the infant children
- Component 4: quality assurance and capacity building including SMS campaign on EE measures
 - Direct beneficiaries:
 - 780,000 women and 720,000 men. The project assumes that the SMS campaign will reach 1.5 million customers in a 52%-48% ratio between women and men.
 - Indirect beneficiaries:
 - 104,000 women and 96,000 men. The project assumes that through word of mouth and direct observation of EE solutions another 10% of the population (around 200,000 people) will benefit in a 52%-48% ratio between women and men.

The roles and needs of women and men *vis a vis* EE solutions have been identified:

- Women are especially concerned with clean cooking be it for the fuel and/or for the stoves as almost 100% of cook stove users in The Gambia are women and they bear the burden of all cooking related activities. Wood collection can take several hours per day which take women away from engaging in other productive activities. Besides while cooking, women and often also their children are exposed indoor-air pollution causing health issues mainly respiratory diseases. Globally, there are 4.3 million premature deaths associated to indoor-air pollution and the majority of the victims are women and children under five years. Therefore, addressing the lack of access to clean cooking energy, ultimately has significant positive impact on women and children.
- Furthermore, women have been negatively affected in the agriculture sector as they have less access to land, financing, equipment, etc. preventing them from improving their yields via modern irrigation and post-harvest techniques. For instance in the fish smoking business, women are using non-efficient stoves with firewood which have negative impact on their health and the environment. In other value chains such as mango processing, women lack the capacity to acquire and use the necessary equipment to significantly add value. As such, men are often taking the lead in more semi-industrial and industrial food processing settings which contributes to widening the wealth gap between genders.
- Finally, men are mainly involved in production, distribution and maintenance of the EE solutions targeted by the project. They can also be buyers of these solutions saving them energy costs and for some appliances also reducing their overall cost of energy.

Hence the project aims at reducing the gender imbalances and empowering women thanks to targeted activities and outcomes:

- Women/gender groups were involved in the PPG phase and will be consulted and fully integrated into the implementation of the project.
- Women will be incorporated into the design and adaptation of EE solutions and clean cooking solutions: on the producer side as well as the user side.
- In the National platform for the integration of energy considerations in other development sectors, women will especially be represented through the Women's Bureau as well as REAGAM (Component 1). Moreover, the representatives of members of the platform should have at least 40% of women.
- A particular emphasis will be put on building the capacities of women across the whole value chain i.e. the production, dissemination, adoption, installation and maintenance of clean cooking solutions (fuel and cook stoves) but also for other EE appliances. The successful examples of Solar Sisters, Sossai and Barefoot College will be incorporated in the targeted support to women and could be undertaken by the Mbolo Association, a local NGO. GreenTech has a gender-focused training on cook stove production and distribution focusing on women. At least 30 women should be trained on the production, dissemination and adoption of clean cooking solutions (fuel and cook stoves) as part of Component 4. With GTTI, there is a specific welding program targeting women.
- Moreover, specific awareness will be raised among women towards EE lighting as well as for the middle class and up in urban and peri-urban areas towards EE A/Cs and refrigerators. Demo projects targeting women in particular as well as messages with EE content focusing on women –via the SMS campaign– will support the reduction of gender imbalances while leveraging dissemination and adoption.
- The project will support the commercialization of at least 5,000 improved cook stoves benefiting not only women as users but also women as producers and/or distributors (Components 3 and 4). As such at least 5 MSMEs supported by the project in the clean cooking sector –production/distribution- will be women led, if possible.
- Access to finance will be facilitated to promote a shift towards EE solutions: relevant financial products offered by partnering financial institutions will also target women.
- In terms of standards for the targeted EE solutions, the Women's Bureau will be included in the dedicated National Committee to ensure that women's needs are considered. (Component 4)
- The project will encourage women to apply for a role in the Project Management Office. Through the UNIDO/GEF6 Project, gender mainstreaming in the energy sector will follow the guidelines of The ECOWAS Gender Mainstreaming Policy. Thus, women will not be seen as mere consumers in the energy value-chain. Their

capacities will be built integrating them to value-chains traditionally regarded only for men. Therefore, the project will emphasize training of women in welding, installation of equipment, building of stoves, etc.

A.5 Risk. Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.(table format acceptable):

Risk	Rating	Mitigation strategy
Institutional risk Policies/strategies cannot be articulated at institutional level	Low	The project will tap into opportunities provided by the unique nexus that exists between energy and all the other sectors of the economy. The national platform on energy nexus issues should overcome this risk and include all relevant stakeholders (members) and their needs. This will ensure that policies and strategies are carefully thought through with relevant members jointly implementing on the ground. The Platform will also provide advisory services to its members and non-members upon request. The stakeholder consultations have ensured buy-in from institutional actors some of which have even provided co-financing letters.
Demonstration projects implementation risks	Medium	UNIDO has long-standing direct experience in the development and implementation of renewable energy projects and it has a strong knowledge of the key variables that determine the success and the failure of a project during its implementation. However, due to co-financing challenges related to the fragile country situation and in line with discussions held with the government, the demonstration projects will be considered a priority and will commence at the very beginning of the project. As such, detailed work plans will be developed in close cooperation with project developers and partners. Besides, the national project manager to be contracted will closely work with the project developers to quickly notice any critical issues immediately in order to take appropriate actions. Besides, the project developers will be supported by other executing partners including ECREEE.
Climate change risks Resources to be used in the efficient cooking project including sawdust, agriculture and garden residues, may be affected by changes in climate patterns	Low	The design of the project includes an environmental impact assessment which will integrate mitigation strategies. During the project preparation phase, the availability of modern cooking fuels in addition to groundnut shell based briquettes have been identified: 20t of cashew nut shells for biochar production to be provided by the Cashew Federation as well as sustainable firewood obtained from sustainably-managed plantations such as cashew farms and community forests. The project has diversified the target modern fuels foreseeing that some type of feedstock could be affected by climate change and/or other competing usage. Nevertheless based on discussions with stakeholders, the required feedstock for fuel production is well under the availability in the country.
Environmental and social risks Negative impact of project activities on local communities e.g. revenues of fuelwood sellers decrease	Low	The project will comply with UNIDO and GEF environmental and social safeguards as well as Gender Policies. This will entail taking into consideration the differentiated roles and needs of women and men, as well as

Risk	Rating	Mitigation strategy
		ensure that both benefit equally from the project and are not disproportionately impacted. The interventions under this project will comply with the requisite UNIDO ESMP. All impacts will be assessed and corrective measures will be taken whenever necessary. Besides, NEA will conduct an environmental impact assessment as required by the laws of the country.
Technology and technical risks Improved cook stoves, efficient lights and refrigerators are not mature enough for the market	Low	<p>This project features incremental technology change, meaning alternative technologies and appliances with lower emissions that involve modest changes and adjustments to what is already used by consumers. The project will focus on technologies that have already been successfully demonstrated and accepted in different countries; especially the ones in the ECOWAS region.</p> <p>In addition technical assistance and capacity building will be offered to demo project developers. Regular monitoring of the demo project implementation status will be carried out and appropriate corrective measures will be promptly taken. Finally, results and lessons learnt will be widely disseminated.</p>
Economic risk The price of oil and consequently the cost of electricity in The Gambia decreases reducing the incentives to purchase EE appliances	Medium	According to forecasts of the International Energy Agency, oil prices will be rising in the coming years reaching USD 79 a barrel of Brent Crude Oil by 2020, a significant rise from the USD 52 cost per barrel in 2017. Besides, it is expected that the cost of electricity will increase in The Gambia as the utility NAWEC is facing significant technical and financial challenges to keep energy prices heavily subsidized. As subsidies are planned to be reduced, prices will increase accordingly. However, the benefits of EE products reside in the fact that they will always save money for the end-users.
Financial risk Business models developed are not appropriate to the market needs	Low	During the PPG phase, the market needs of relevant stakeholders were addressed through public and one-on-one consultations/meetings. The private sector was particularly keen to play its role in the creation of a sustainable EE solutions market if the necessary financial mechanisms are in place. As such, catered financial mechanisms will be put in place by a local financial institution to support the dissemination and adoption of EE solutions across The Gambia considering the local market needs. Moreover, the commercial adoption of EE solutions will be further supported by awareness activities of public partners as well as a telecom operator (SMS campaign).
Gender Risk Social resistance against the involvement of women in activities that promote GEEW and/or a lack of interest in the project activities from stakeholders, especially with regard to the active promotion of gender equality	Low	To mitigate this risk, the project will conduct a gender responsive communication campaign showing the benefits of gender equality for both women and men. Besides, CSOs and NGOs promoting GEEW as well as gender experts will be consulted during the whole project duration to promote gender equality, create a culture of mutual acceptance and understanding between genders as well as to maximize the

Risk	Rating	Mitigation strategy
		potential contribution of the project in improving gender equality in the energy field. MoPE has been a firm proponent of gender mainstreaming; especially through the Direction of Energy which was an active voice throughout the process of elaborating and approving the ECOWAS Gender Mainstreaming Policy.
Social and Gender Risk Low participation of qualified female candidates due to lack of interest, inadequate project activity or missing qualification in execution of some activities	Low	To attract qualified female candidates to the project activities, an adequate and gender responsive communication strategy will be carried out by reaching out to women's groups and associations, while improving accessibility of trainings and workshops to women. For instance, the project could provide safe transport, offering childcare, offering trainings at suitable times for women when children are in school and day-care, etc. If necessary and in the scope of the project, additional bridging courses for women will be considered, developed and implemented to empower their capacities. The involvement of the Women's Bureau and local NGOs that have been successful in promoting women's participation in various activities will ensure gender and social risks are taken into consideration.

A.6. Institutional Arrangement and Coordination. Describe the institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

UNIDO is the implementing agency of the project and will implement the project in collaboration with key executing partners; namely, MoPE, TGSB, NEA and ECREEE. The roles and responsibilities of all partners within the project have been clearly defined below:

UNIDO will be responsible for the oversight and supervision of the project as well as reporting on the project performance according to the GEF rules. It will manage, supervise and monitor the work of the international teams and ensure that deliverables are technically sound and consistent with the requirements of the project. UNIDO, as the GEF implementing agency, holds the ultimate responsibility for the implementation of the project, the timely delivery of the expected outputs and the achievement of the expected outcomes.

The **Project Management Office (PMO)** will be in charge of the daily management and operations of the project, monitoring project activities according the work plan and reporting to UNIDO on a regular basis. It will consist of a National Project Coordinator (NPC) and a Project Assistant (PA) and will be hosted by MoPE as part of its co-financing. Additional support staff could be hired on a short or medium-term basis, if required. MoPE, NEA and TGSB will designate senior officials as Focal Points (FP) and may designate some of their staff to support the project activities as technical experts when deemed necessary contributing to the success of the project and national ownership. PMO will be funded by the GEF grant and co-financed by MoPE. UNIDO will provide the PMO with the necessary support in terms of management and monitoring.

MoPE will host and provide partial logistics (transportation, stationery, communications, etc.) as well as technical support to the PMO as part of its co-financing. It will also support the project in terms of monitoring & evaluation (Component 5).

NEA will lead the Project Steering Committee as the GEF Operational Focal Point. It will support the monitoring of the project through an Environmental Impact Assessment. The cost will be covered by the project. Besides, NEA will collaborate in the National EE solutions Standards Committee to be created by the project and led by the TGSB.

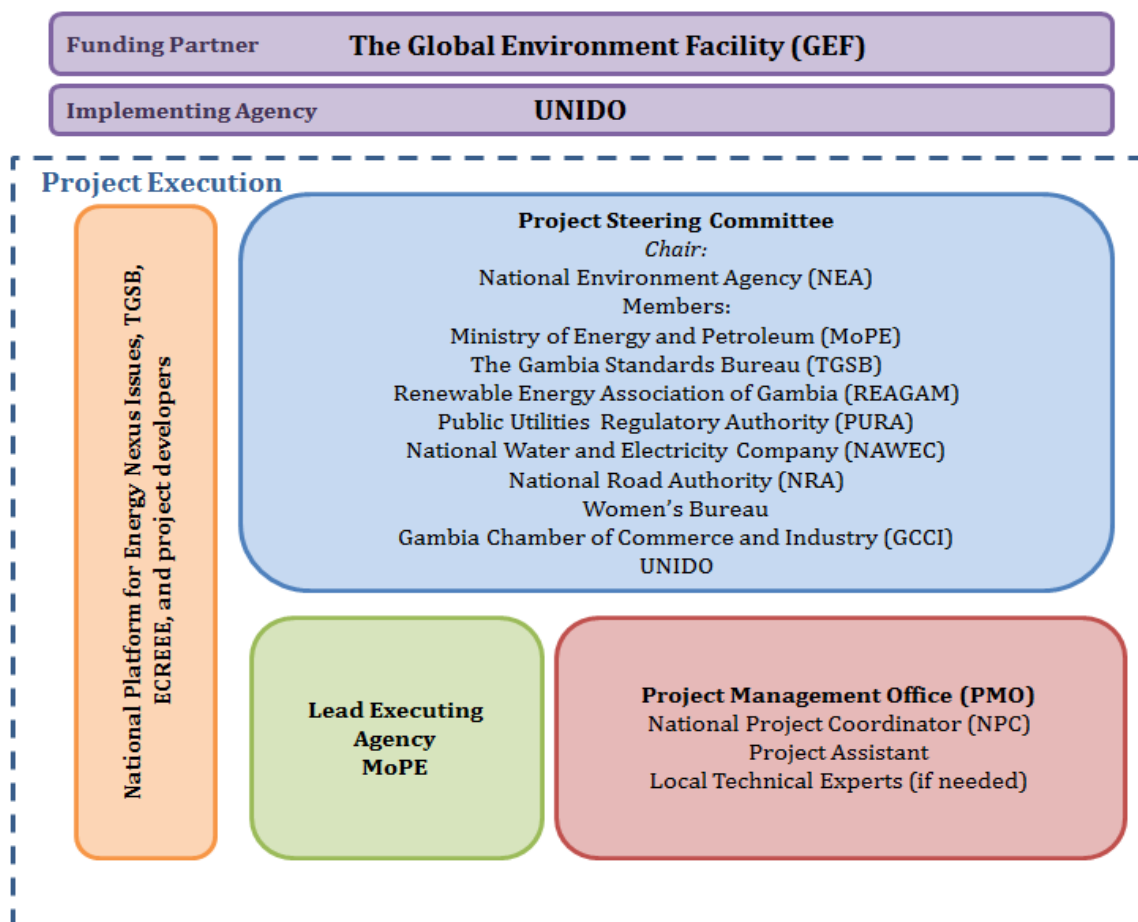
TGSB will support Component 4 especially on quality related topics around the EE solutions targeted by the project. It will develop standards and labelling schemes, ensure testing and certifications. TGSB will lead the National EE solutions Standards Committee to be created by the project.

ECREEE will support the project execution especially on capacity building activities, awareness raising and knowledge management. It envisages, where appropriate, that funds will be provided to the main executing actor. However, in some instances funds will be channeled through ECREEE in order to avoid long delays in disbursement due to governmental bureaucracies and lack of capacity.

Project Steering Committee (PSC) will monitor the project's progress, guide its execution and support the project in achieving its expected outputs and outcomes. The PSC will be made up of representatives of all agencies which are directly involved in the project implementation or which have a legal or regulatory stake in project outcomes or execution. The PSC will include representatives of key stakeholders or groups of key stakeholders of the project. The PSC will meet at least once a year to periodically review and monitor project implementation progress, facilitate coordination between the project partners provide transparency and guidance, ensure ownership, and support the project's sustainability. It will be chaired by the NEA in its role of GEF Operational Focal Point and should include UNIDO and all other GEF executing partners of the project as well as representatives of the relevant government ministries/agencies, the private sector, the civil society, international organizations. Other members can be invited by the decision of the PSC in an ad hoc manner. UNIDO will be in charge of providing to all PSC members overall management guidance to the project, compile and present progress reports and ensure quality of the different activities. The final composition of the PSC will be determined at the inception phase of the project.

The National Platform for Energy Nexus Issues will interact with the PMO and report to the PSC.

As agreed among executing partners of the project, the institutional arrangement will be the following:



It is worth mentioning that at the project inception, UNIDO, MoPE, NEA and TGSB will further refine the proposed work plan to clearly define milestones and deadlines for each and every activity, especially for the first year. The proposed work plan will be shared with the PSC members, modified if needed and validated at the first PSC meeting.

Contractual services

UNIDO will establish several contractual arrangements with regional and local partners to execute most of the activities envisaged under the project. These contracts will be performance-based and could include a number of after-sale deliverables. Besides given the large number of subcontracts expected; a Call for Expression of Interest will be issued in early 2018. The tentative list of partners per Component is found below, even though this list might be adjusted depending on the call results as well as the project needs once implementation begins.

Component	Executing partner
Component 1	MoPE
Component 2	NAWEC, Petrogas, Cashew Federation, Africell, FAO, PURA, ECREEE, and private companies in the EE appliances and lighting sector.
Component 3	GreenTech, African Partnership for Biochar, ECREEE, GTTI, The Gambia Clean cooking alliance, West Wind Energy, WACCA, FAO, PURA and Africell

Component 4	TGSB and ECREEE
Component 5	NEA

For the remaining activities where the expertise or capacity is not present in the country, UNIDO will provide execution support for the procurement of goods and services, as well as recruitment of technical experts as requested by the letter of the MoPE (Annex M). The full or partial title and ownership of equipment purchased under the project will be transferred to national counterparts and/or project beneficiaries during the project implementation as deemed appropriate by the UNIDO Project Manager in consultation with the relevant stakeholders.

Coordination

In terms of coordination the current project builds on the experiences, lessons and partnerships developed under the GEF 4 and GEF 5 projects that are being implemented by UNIDO in The Gambia. The platform will play a key role in ensuring that synergies are leveraged with the ongoing GEF projects. In addition, the project will coordinate with FAO GEF 5 projects in The Gambia to generate synergies and mutual benefits especially as UNIDO GEF 6 will impact:

- “Community-Based Dryland Forest Management”: by designing, producing and distributing adapted, available and affordable EE cook stoves to reduce firewood consumption and deforestation (Component 3)
- “Adapting Agriculture to Climate Change”: by possibly supporting targeted community gardens by introducing EE lighting, cold storage via solar energy incl. for livestock vaccines and food processing, etc.

A.7 Benefits. Describe the socioeconomic benefits to be delivered by the project at the national and local levels. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF)?

Socioeconomic benefits of the project are considerable as it focuses on households, public building including schools and hospitals as well as private sector efforts with an impact on a large part of the population.

The successful implementation of the project will:

- Reduce the energy bill of a large number of Gambians
- Enlighten streets at night increasing the road’s safe and security and the hours to engage in productive activities
- Potentially improve the stability of the grid as less pressure will be exerted on it through the use of EE appliances
- Improve the health of women through the adoption of available, affordable and adapted EE stoves e.g. less firewood collection, burning risks, respiratory and optical diseases as well as back aches.
- Save time for women to engage in other income generating activities.
- Provide additional income to MSMEs in a changing sustainable energy value chain
- Empower women and youth by building their capacity and promoting entrepreneurial activities
- Improve livelihoods of vulnerable populations in particular e.g. women, youth, rural communities as well as peri-urban and urban population of The Gambia

The socioeconomic benefits of the project are not only measurable at the local and national levels but also at the regional and global level. While The Gambia was the first African country to submit its SE4All AA and IP, it should continue to show its leadership by implementing their IP successfully. In the ECOWAS region, the implementation of EE measures at larger scale in The Gambia will contribute to the region’s overall development goals. Finally at global level, environmental benefits generated by this project will support the efforts in reducing GHG emissions and thus improving livelihoods.

A.8 Knowledge Management. Elaborate on the knowledge management approach for the project, including, if any, plans for the project to learn from other relevant projects and initiatives (e.g. participate in trainings, conferences, stakeholder exchanges, virtual networks, project twinning) and plans for the project to assess and document in a user-friendly form (e.g. lessons learned briefs, engaging websites, guidebooks based on experience) and share these experiences and expertise (e.g. participate in community of practices, organize seminars, trainings and conferences) with relevant stakeholders.

Project findings will primarily serve to update and articulate existing policies, programmes and projects. It is therefore important that all data collected is systematically filed and archived by the PMO and transferred to MoPE once the project closes. Besides, all relevant data will be uploaded to the open data platform of UNIDO where the material will be available for public consultation.

Besides, the project will establish linkages between the Global Cook stoves Alliance and other alliances like the West African Cooking Alliance (WACCA) to ensure that globally accepted knowledge as well as communication products and experiences are applied to this project but also that the lessons learnt and outcomes from The Gambia are disseminated appropriately. The learning process throughout the collection of data, analysis, assessment and reporting will also benefit the Government in view of implementing commitments in the Intended Nationally Determined Contributions and the Post-2015 Development Action Agenda.

Finally, the project will supply data to the ECOWAS observatory (ECOWREX) to inform potential partners/investors with key data on the energy situation of The Gambia. This linkage with ECOWREX will also ensure that the knowledge shared reaches the relevant audience.

The following aspects will be underscored during the implementation phase:

- The National Platform for Energy Nexus Issues (Component 1) shall be a catalyzer for sharing knowledge among ministries and public institutions, private sector, CSOs, NGOs and international organizations active in the country.
- Demo projects (Components 2 & 3) used as case studies (official partner websites, social media and at conferences) as well as for study tours in the ECOWAS region and abroad.
- A quarterly newsletter will be developed and shared with all stakeholders to inform them on the project status.
- Labelling scheme as well as certification & testing on the targeted EE appliances (Component 4) will be developed based upon existing ones in the ECOWAS region as well as nurture regional systems and practices.
- The project will make use of ICT under the leadership of ECREEE; for instance, it will be shown through GIS mapping

B. DESCRIPTION OF THE CONSISTENCY OF THE PROJECT WITH:

B.1 Consistency with National Priorities. Describe the consistency of the project with national strategies and plans or reports and assessments under relevant conventions such as NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.:

The project fully complies with the priorities outlined in national policies, SE4All Action Agenda, and WACCA Strategic paper. Components 2 and 3 of the project have been identified by The Gambian Government as priority projects to be implemented within the SE4All Action Agenda. The need of an environment-friendly energy framework, through both mitigation and adaptation measures, is acknowledged in the second National Communication of The Gambia to the United Nations Framework Convention on Climate Change, the National Development Plans and the Poverty Reduction Strategy Paper.

The project reflects the Government's commitment to promote sustainable energy as evidenced by the adoption of the Renewable Energy Law. This sets out the legal, economic and institutional basis to promote the use of renewable energy resources as well as the Programme for Accelerated Growth and Employment (PAGE)²⁰, which identifies the

²⁰ Programme for Accelerated Growth and Employment (PAGE) at: http://eeas.europa.eu/delegations/gambia/documents/about_us/page_2012_2015_en.pdf

supply of adequate, affordable, reliable, environmentally friendly and sustainable energy services as a key pillar to ending poverty in The Gambia while promoting investment for economic growth.

The Gambia's National Energy Policy (NEP) sets out specific objectives to promote: the utilization of renewable forms of energy, such as biomass, solar and wind; the use and development, to the extent possible, of a domestic production capacity for renewable energy fuels and technologies; and the assurance of a sustainable supply of renewable energy fuels, device, technologies at competitive prices through private sector participation. Besides, the National Energy Efficiency Action Plan (NEEAP) of The Gambia developed several scenarios for plausible contributions of energy efficiency in the electricity and cooking sectors. The project is in line with other national acts and strategies including National Appropriate Mitigation Action plan, GIEPA Act, Strategic Programme for Climate Resilience (SPCR), National Environmental Management Act (1994) and the Gambia Forest Act (1998).

Apart from being aligned with the country's national priorities, the project is consistent with The Gambia's international commitments in the field of climate change. The Gambia, as a fully committed party to the UNFCCC, resubmitted its Intended Nationally Determined Contribution (INDC)²¹ on September 2015 and signed the Paris Agreement on April, 2016. In order to reach the conditional emissions reduction targets stated in the INDC, Component 2 will directly support efficient lighting mitigation activities which aim to substitute incandescent light bulbs while promoting the replacement of energy intensive appliances. As for Component 3, it will promote energy saving cook stoves to reduce firewood and charcoal consumption. As for Components 4, it supports market based uptake of interventions in Components 2 and 3, while Component 1 ensures the systematic integration of sustainable energy options into other sectors. Besides, The Gambia ratified the Minamata Convention on Mercury (2016) which is an international treaty designed to protect human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds. According to information gathered in The Gambia, mercury can be found mainly in electrical appliances, electronics and measuring devices in hospitals, fluorescent tubes, cosmetics, soap, and waste stream, among others. The project supports the Gambian commitments under this convention by promoting the adoption of LED bulbs in different sectors.

Additionally, The Gambia has ratified the Montreal Protocol committing to completely phase-out HCFCs by 2030. To do so, it will reduce its imports –via quotas– of HCFC-22 present mainly in A/Cs and other refrigerant-based appliances. This project will leverage the outcomes of the UNIDO/GEF 5 project entitled “Reducing greenhouse gases and ODS emissions through technology transfer in the industrial RAC (refrigeration and air conditioning) sector” on the Gambian Refrigeration and Air-Conditioning Support Service for maintenance & information as well as on the awareness-raising and capacity-building in industries and sector players. This project focuses on creating the enabling environment supporting the phase-out of HCFC-22 i.e. via policy support, technical support/maintenance and awareness-raising. The UNIDO/GEF 6 project will build upon the outcomes of the projects focusing more on the dissemination and adoption of EE RACs in different industries (mainly SMEs), public buildings and residential areas. Finally, the country is in the process of ratifying the Kigali Amendment which stipulates to cut the production and consumption of HFCs also present in cooling systems by more than 80% over the next 30 years. Finally, the project supports the Libreville Declaration (2008) which links health and environment including the related risks by promoting the use of clean cooking (cook stoves and alternative fuels).

C. DESCRIBE THE BUDGETED M & E PLAN:

Project monitoring and evaluation (M&E) –defined in great detail under Component 5– are conducted in accordance with established UNIDO and GEF procedures. UNIDO's standard M&E approach for GEF funded projects, consisting of a terminal evaluation as well as periodic reporting based on the GEF/UNIDO templates (PIR/final PIR/tracking tool) will be strictly followed. Monitoring will be based on indicators defined in the log frame and the annual work plans. The main outcome of the monitoring and evaluation process is to provide information on whether the project is effectively managed and its contribution towards the attainment of the SDG-7 and SDG-9.

²¹ The INDC of the Gambia at: <http://www4.unfccc.int/submissions/indc/Submission%20Pages/submissions.aspx>

UNIDO as the implementing agency will involve the GEF Operational Focal Point and project stakeholders at all stages of project monitoring and evaluation activities in order to ensure that evaluation results are used for further planning and implementation. According to the M&E policy of the GEF and UNIDO, follow-up studies like Country Portfolio Evaluations and Thematic Evaluations can be initiated and conducted. All project partners and contractors are obliged to (i) make available studies, reports and other documentation related to the project and (ii) facilitate interviews with staff involved in the project activities.

A detailed M&E plan will be prepared by UNIDO in collaboration with project partners at the beginning of project and then periodically updated, if necessary. The PMO and UNIDO Project Manager will be responsible for the M&E Plan; particularly, the impact and performance achieved in relation to the targets outlined in the log frame of the project (Annex A).

The National Project Manager will be responsible for the day to day management and tracking of overall project milestones and progress towards reaching the expected project outputs and will report directly to the UNIDO PM. The UNIDO Project Manager will be responsible for narrative reporting to the GEF. He will also be in charge of the preparation of Annual Project Implementation Reviews (PIR) and will support the terminal evaluation as established in the M&E Plan.

In addition, the NEA, GEF Operational Focal Point and executing partners of the project have to undertake an Environmental Impact Assessment (EIA) as part of their duties for all projects. This includes a baseline study as well as developing an Environment & Sustainability Management Plan of the project to be monitored on a regular basis and the monitoring of hazardous chemical (incl. mercury of incandescent light bulbs) as part of the ratification of the Minamata Convention. As such the NEA's duties should be fully integrated in the M&E plan of the project, which will be ensured, as the NEA is part of the PSC that will develop the M&E plan.

UNIDO will make arrangements to conduct an independent terminal evaluation of the project at least two months before the end of the project. The UNIDO Project Manager will inform UNIDO Evaluation Group at least 6 months before project completion about the expected timing for the Terminal Evaluation (TE). UNIDO Evaluation Group will support the development of the ToR and plan the TE in close collaboration with the UNIDO Project Manager. The following table provides the tentative budget for the evaluation:

M&E Activity Categories	Feeds Into	Timeframe	GEF Budget(USD)	Co-financing (USD)	Responsible Parties
Environmental Impact Assessment	Baseline Study	Project Inception	7,000	58,000	NEA
Measurement GEF Tracking Tool specific indicators	Project Management	Continuous	30,000	90,000	PMO
Monitoring of project impact indicators (as per Log frame)	Project Management	Continuous			PMO
Monitoring of Environmental & Sustainability Management Plan	Project management, Terminal Evaluation	Continuous			NEA
Periodic Progress Reports	Project management, PSC Meeting	Semi-annually			PMO

M&E Activity Categories	Feeds Into	Timeframe	GEF Budget(USD)	Co-financing (USD)	Responsible Parties
Independent Terminal Evaluation	Terminal Evaluation Review conducted by UNIDO IEV and/or GEF EO	Project completion (At least one month prior to the end of the project and no later than six months after project completion)	25,000	22,000	Independent Evaluator, PMO, UNIDO PM, and UNIDO Evaluation Group (IEV)
TOTAL			62,000	170,000	


Legal Context:

The Government of the Republic of The Gambia agrees to apply to the present project, *mutatis mutandis*, the provisions of the Standard Basic Assistance Agreement between the United Nations Industrial Development Organization and the government signed and entered into force on 27 January ,1994.

PART III: CERTIFICATION BY GEF PARTNER AGENCY(IES)

A. GEF Agency(ies) certification

This request has been prepared in accordance with GEF policies²² and procedures and meets the GEF criteria for CEO endorsement under GEF-6.

Agency Coordinator, Agency Name	Signature	Date (MM/dd/yyyy)	Project Contact Person	Telephone	Email Address
Mr. Philippe R. Scholtès, Managing Director, Programme Development and Technical Cooperation, UNIDO-GEF Focal Point		01/24/2018	Mr. Alois Posekufa Mhlanga, Industrial Development Officer, Department of Energy, UNIDO	+431260265169 	a.mhlanga@unido.org

²² GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, SCCF and CBIT

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).

Results		Indicator (quantified and time-bound)	Baseline	Targets	Means of Verification	Risk and Assumptions
Objective	Operationalize the SE4All Action Agenda in The Gambia by catalyzing investments in improved cooking stoves and efficient appliances	CO2eq emissions (tones of CO2eq) avoided or reduced	Baseline: Limited emissions reductions would occur if the current practices are not changed in The Gambia	316,443 tons of CO2eq emissions directly reduced over a five lifetime of the technology ²³	<ul style="list-style-type: none"> • Final evaluation • Regular project reporting • GEF tracking tool 	<p>Political & social situation in the country remains stable</p> <p>The Government of The Gambia remains committed to implementing the SE4All Action Agenda and IP</p> <p>Affordability & availability of EE solutions are granted</p> <p>Business models are sustainable</p>
Project Component 1: National platform to foster nexus issues						
Outcome 1.1	Increased integration of energy issues into policies, programmes and projects into other sectors	Number of projects from different sectors that incorporated the energy dimension	5 nexus projects encompass RE/EE in the public and private sectors	20 nexus projects encompass RE/EE in the public and private sectors	<p>Minutes of the national platform meetings</p> <p>Platform reports</p>	<p>Members attend and actively participate in the national nexus platform and its objectives</p> <p>Members make use of the advisory services provided by the Platform</p>

²³ This figure does not include AC and refrigerators.
GEF6 CEO Endorsement /Approval Template-August2016

Results		Indicator (quantified and time-bound)	Baseline	Targets	Means of Verification	Risk and Assumptions
Output 1.1.1	National platform established and used on a regular basis to discuss and address the nexus between energy and policies, programmes and projects in other sectors	<ol style="list-style-type: none"> 1. National Platform is operational with TORs, strategy, work plan and M&E plan 2. National Platform fulfills its tasks and objectives 	No national platform on energy nexus issues exists	<ol style="list-style-type: none"> 1. National platform's TOR including strategy, work plan and M&E plan are developed and validated 2. National platform meets according to the TORs 3. National platform fosters nexus issues: number of projects integrating nexus approach and adapted policies 4. Customs-tax reduction and exemption made to EE solutions imports (adapted GICA Act of MOTIE) 5. National platform provides advisory services to members & non-members 6. National platform communicates on its activities 7. National platform members are trained 8. National platform is gender mainstreamed 	<ul style="list-style-type: none"> • Minutes of the national platform meetings • Platform advisory services reports • Adapted GIPA Act • Newsletters sent, website developed and updated • Training programme • Training reports 	Members attend and actively participate in the national nexus platform and its objectives
Output 1.1.2	Policy recommendations around energy nexus issues are made	<ol style="list-style-type: none"> 1. Number of proposals to adapt policies or introduce new policies are made 2. Number of policies 	Existing policies on energy and around energy but where energy efficiency is often neglected	<ol style="list-style-type: none"> 1. At least 2 proposals to adapt policies or introduce new policies are made 2. At least 1 policy adapted around 	<ul style="list-style-type: none"> • Proposal of policies/ amendments of policies • Official 	Willingness of the relevant government bodies & timespan between proposal

Results		Indicator (quantified and time-bound)	Baseline	Targets	Means of Verification	Risk and Assumptions
		adapted around energy and energy nexus issues 3. Customs-tax reduction and exemption made to EE solutions imports (adapted GICA Act of MOTIE)		energy and energy nexus issue 3. Customs-tax reduction and exemption made to EE solutions imports (adapted GICA Act of MOTIE)	Journal publications <ul style="list-style-type: none"> Platform meeting reports Project report 	and application Integrated approach for the policies to ensure uptake of quality EE solutions in the country
Project Component 2: Promoting the use of energy efficient appliances						
Outcome 2.1	Increased use of efficient lights and other EE appliances	1. Number of EE appliances adopted 2. Number of beneficiaries trained on tailored training programme 3. Number of awareness raising activities conducted 4. Catered financial products developed to support the purchase of targeted EE solutions	1. Limited amount of quality EE appliances used across the country 2. Limited training on EE appliances: mainly by producers to specific distributors 3. Limited awareness campaigns by PURA and NAWEC on EE lighting in different areas across the country 4. No catered financial products for EE solutions	1. 62,000 EE light bulbs, 10 heat pump chillers and 1,000 EE refrigeration appliances are installed across the country 2. At least 40 beneficiaries are trained 3. At least 2 awareness raising campaigns are designed and rolled out including the SMS campaign to 1.5 million subscribers for 36 months 4. Relevant financial products developed and used to support consumers to acquire targeted EE solutions	1. Project reporting 2. Training reports 3. Telecom operator reporting, checking on sample of subscribers and project reporting 4. Project reporting, partnering financial institutions product offerings and reporting	Private sector companies are willing to sell EE solutions Consumers are willing to shift to EE solutions Financial institutions and NAWEC are willing to offer adapted financial schemes
Output 2.1.1	62,000 LED bulbs adopted in public buildings, street lights, households	1. Number of EE bulbs installed (sold and granted) 2. Number of used	1. Limited amount of EE bulbs installed across the country and	1. 62,000 EE light bulbs installed with the following breakdown:	<ul style="list-style-type: none"> Demo project reporting 	Relevant authorities willing to collaborate

Results		Indicator (quantified and time-bound)	Baseline	Targets	Means of Verification	Risk and Assumptions
	and private sector	<p>incandescent light bulbs collected for recycling</p> <p>3. Number of subsidy vouchers distributed for the purchase of LED bulbs</p> <p>4. Average number of SMS on EE lighting sent per year</p> <p>5. Number of awareness raising campaigns other than via SMS</p> <p>6. Number of people sensitized on the usage of EE lighting via face-to-face demo and other media sensitization</p>	<p>no LED bulbs used in the 9-10,000 existing street lights in the country</p> <p>2. Lack of collection points for used incandescent or LED light bulbs in the country</p> <p>3. No voucher programme in place</p> <p>4. No SMS sent on EE lighting</p> <p>5. Awareness raising campaign on CFL lights by PURA, and on EE lighting by NAWEC</p> <p>6. 2,000 people sensitized through workshops in municipalities and free phone number (PURA)</p>	<p>-2,000 incandescent light bulbs changed in targeted public buildings</p> <p>-At least 5,000 street lights are equipped with EE light bulbs</p> <p>-At least 55,000 EE bulbs are sold on a commercial basis across different sectors</p> <p>2. 10 collection points for used incandescent and LED bulbs established</p> <p>3. At least 10,000 vouchers are distributed</p> <p>4. About 2 SMS sent per year on EE lighting</p> <p>5. 1 awareness-raising campaign based on a promotion video/audio and interviews done with partners through other media channels will be rolled out (incl. radio, TV) and face-to-face demo sessions undertaken on EE lighting in a targeted geographical area</p> <p>6. At least 70% of the population is sensitized on EE lighting</p>	<ul style="list-style-type: none"> Project reporting National Renewable Energy Action Plan (NREAP) monitoring <p>NAWEC and NRA reports (for street lighting) Sales reports & recycling/voucher reports of private companies, stakeholders in the project</p> <ul style="list-style-type: none"> Project reporting Telecom operator reporting, checking on sample of subscribers and project reporting Short Video/audio on EE appliances 	<p>Street lighting initiative partially funded by World Bank is launched at beginning of the project</p> <p>Private sector companies are willing to sell EE light bulbs</p> <p>Consumers are willing to shift to EE lighting (performance labelling scheme and related awareness raising, see PC4)</p>

Results		Indicator (quantified and time-bound)	Baseline	Targets	Means of Verification	Risk and Assumptions
					<ul style="list-style-type: none"> Reporting on attendance to face-to-face demo sessions, TV & radio audience 	
Output 2.1.2	At least 1,030 other EE appliances are installed across the country	<ol style="list-style-type: none"> Number of EE heat pump chillers installed Number of EE refrigeration appliances installed Number of solar thermal systems improving EE installed in public buildings and the tourism sector Average number of SMS on other EE appliances sent per year Number of awareness raising campaigns other than via SMS Number of people sensitized on the usage of other EE appliances via face-to-face demo and other media channels 	<ol style="list-style-type: none"> EE heat-pump chillers not currently used Some EE refrigeration appliances are available 2% penetration of solar thermal systems (2012) No SMS to raise awareness on other EE appliances Limited awareness on EE appliances Limited number of people sensitizes on other EE appliances except mainly by distributors at acquisition 	<ol style="list-style-type: none"> 10 EE heat pump chillers for small scale beverage and food processing industries installed At least 1,000 EE refrigeration appliances are sold (A/Cs, refrigerators, cold storage) At least 20 Solar Thermal Systems are operational in the public services and tourism sector 3 SMS/year are sent on appliances to 1.5 M Africell subscribers A free phone number for questions is available at PURA, TV, radio, printed media and community meetings are organized At least 70% of the population is sensitized on EE appliances 	<p>Project reporting</p> <p>Sales reports of private companies, stakeholders in the project</p> <p>National Renewable Energy Action Plan (NREAP) monitoring</p> <p>Project reporting Telecom operator reporting, checking on sample of subscribers and project reporting Short Video/audio on EE appliances</p> <p>Reporting on attendance to face-to-face demo sessions, TV & radio audience</p>	<p>Private companies are willing to switch to appliances leading to EE.</p> <p>Necessary cost-benefit analysis, awareness raising & training provided to switch to EE solutions</p> <p>Awareness is raised among consumers to switch to EE refrigeration appliances</p> <p>Relevant quality standards developed</p> <p>Installers are trained on quality assurance and certified</p>
Output 2.1.3.	Technical and marketing & distribution skills	<ol style="list-style-type: none"> Number of practitioners trained 	No proper training available apart from some	<ol style="list-style-type: none"> At least 20 practitioners trained on technical skills 	Training reports & project reporting	Women and youths' capacities are enhanced to

Results		Indicator (quantified and time-bound)	Baseline	Targets	Means of Verification	Risk and Assumptions
	related to EE appliances are built and 20 practitioners are trained	(disaggregated data by gender and age) 2. Share of women among trainees 3. Share of trainees under 35 4. Share of trainees from outside of the Greater Banjul Area	brands/distributors on targeted EE appliances	(incl. installation and maintenance) and marketing & distribution of EE appliances using the train the trainers approach 2. At least 40% of the trainees are women 3. At least 40% of the trainees are under 35 4. At least 1/3 are from the provinces outside of the Greater Banjul Area		install, maintain and distribute EE appliances
Output 2.1.4.	Facilitating access to finance and other incentives for EE appliances dissemination on the supply and demand side	1. Tax exemption provided to certain EE targeted technologies 2. Number of incentives put in place to facilitate access to EE appliances by local financial institutions 3. EE appliances revolving fund or other financial mechanism established 4. Awareness raised on financing schemes to relevant stakeholders 5. Number of loan officers trained	No catered financial mechanisms for EE solutions exists	1. Tax exemption for selected EE appliances is put in place 2. At least 1 financing scheme put in place to support the demand 3. A revolving fund with preferred interest rate or another adapted financial scheme established 4. Awareness campaign conducted incl. available financing schemes via SMS and other media as well as direct discussions with importers/distributors 5. 15 loan officers trained on risks and	Project Reporting GIPA (Act) with tax exemption updated with targeted EE appliances Loan officers satisfaction questionnaires and training report	Government willingness to update and enforce updated GIPA Finance institutions and RE Fund support the dissemination of EE appliances through financing facilities Supply and demand side are informed on the financing schemes

Results		Indicator (quantified and time-bound)	Baseline	Targets	Means of Verification	Risk and Assumptions
				opportunities of EE appliances		
Project Component 3: Promoting the production and use of efficient cook stoves and alternative cooking fuels						
Outcome 3.1	Increased production and use of efficient cook stoves and alternative cooking fuels	<ol style="list-style-type: none"> 1. Number of improved cook stoves produced and used in The Gambia 2. Tons of firewood saved 3. GHG emissions reduced 4. Share of alternative cooking fuels 	<ol style="list-style-type: none"> 1. 29% improved cook stoves using biomass (2012) 2. 1kg of firewood used per day per Gambian e.g. 2.5t per year per household 3. 1,364,406 tCO₂e emitted per year 4. 27% of alternative cooking fuels used (2012) out of which 0% is produced locally (2012) 	<ol style="list-style-type: none"> 1. At least 5,000 improved cooking stoves produced and used in the country 2. At least 5,000 t of firewood saved per year 3. At least 30,000 tCO₂e direct emissions reduction per year (from EE stoves using less firewood and EE stoves using alternative cooking fuels) 4. Increased share of alternative cooking fuels used 	<p>Project reporting</p> <p>Producers and distributors reports</p>	Capacity is built among producers to design and produce relevant cook stoves, produce alternative cooking fuels, distributors to raise awareness and sell clean cooking solutions
Output 3.1.1	17,000t of agro-waste promoted as clean cooking fuels	<ol style="list-style-type: none"> 1. Tons of agro-waste used to produce briquettes and biochar 2. Number of new point of sales 3. Average number of SMS on alternative cooking fuels sent per year 4. Number of awareness raising campaigns other than via SMS 	<ol style="list-style-type: none"> 1. Limited promotion of agro-waste to energy (only 1 player with relevant equipment for briquettes & biochar) 2. Limited awareness on alternative cooking fuels 	<ol style="list-style-type: none"> 1. 17,000 tons of agro-waste based briquettes & biochar produced annually by different producers 2. 12 point of sales at existing retailers in addition to production sites are set 3. 2 SMS/year are sent on alternative cooking fuels to 1.5 	<p>Reporting of agro-waste suppliers and briquettes/biochar producers</p> <p>Field visits and discussions with PoS</p> <p>Project reporting</p> <p>Telecom operator reporting, checking on sample of subscribers and project reporting</p> <p>Short Video/audio</p>	Mapping on the availability of agro-waste is carried out showing the seasonality and collection

Results		Indicator (quantified and time-bound)	Baseline	Targets	Means of Verification	Risk and Assumptions
		5. Number of people sensitized on the usage of alternative cooking fuels via face-to-face demo and other media sensitization		M Africell subscribers 4. TV, radio, printed media and community meetings are organized 5. At least 70% of the population is sensitized on alternative cooking fuels	on EE appliances Reporting on attendance to face-to-face demo sessions, TV & radio audience	
Output 3.1.2.	Private companies and distributors as well as public and development institutions engaged in manufacturing and distribution of 5,000 ICS	1. Number of stoves manufactured and distributed (sold, partially and fully funded) 2. Number of centralized production lines for EE stoves established 3. Average number of SMS on alternative cooking fuels sent per year 4. Number of awareness raising campaigns other than via SMS 5. Number of people sensitized on the usage of ICS via face-to-face demo and other media sensitization	1. 29% improved cook stoves using biomass (2012) 2. No centralized production line existing in the country 3. No SMS campaigns on ICS 4. Limited awareness on relevant ICS and their multiple benefits 5. Limited number of people effectively sensitized on ICS	1. At least 5,000 efficient cook stoves using alternative cooking fuels and less firewood (transition phase) are produced and distributed across the country 2. At least 1 centralized production line for cook stoves is developed and operational 3. 5 SMS/year are sent on ICS to 1.5 M Africell subscribers 4. TV, radio, printed media and community meetings are organized 5. At least 70% of the population is sensitized on ICS	Project monitoring Production tracking of private companies and distributors Project reporting Telecom operator reporting, checking on sample of subscribers and project reporting Short Video/audio on EE appliances Reporting on attendance to face-to-face demo sessions, TV & radio audience	ICS are designed based on existing successful stoves in the country and in the region and with users, adapted to their needs ICS are available and affordable ICS can be for firewood/charcoal (at least 50% EE) and for alternative cooking fuels
Output 3.1.3.	Technical and marketing & distribution skills related to clean cooking solutions	1. Number of practitioners trained (disaggregated data by gender and	1. No integrated training covering improved cook stoves and alternative	1. 20 practitioners trained on alternative cooking fuels as well as manufacture and distribution of	Training reports & project reporting	Women and youths' capacities are raised to produce/distribute clean cooking

Results		Indicator (quantified and time-bound)	Baseline	Targets	Means of Verification	Risk and Assumptions
	are built and 20 practitioners are trained	age) 2. Number of trainers from other Sub-Saharan countries 3. Share of women among trainees 4. Share of trainees under 35 5. Share of trainees from outside of the Greater Banjul Area	cooking fuels is available 2. Same as above 3. Same as above 4. Same as above 5. Same as above	efficient cook stoves in compliance with certification standards 2. At least 2 trainers are from Sub-Saharan countries 3. At least 40% of the trainees are women 4. At least 40% of the trainees are under 35 5. Proportional representation from the different provinces		solutions Successful clean cooking entrepreneurs in other Sub-Saharan countries are willing to share their know-how and train practitioners in The Gambia
Output 3.1.4.	Facilitating access to finance and other incentives for clean cooking solutions dissemination on the supply and demand side	1. Number of incentives put in place to facilitate access to clean cooking solutions by local financial institutions 2. Clean cooking Revolving Fund or other financial mechanism put in place for producers/distributors 3. Awareness raised on financing schemes to relevant stakeholders 4. Number of loan officers trained	No catered financial mechanisms for ICS exists	1. At least 1 financing scheme put in place to support the demand 2. Development of a revolving fund or another adapted financial scheme for producers/distributors 3. Awareness raised on financing schemes to relevant stakeholders 4. At least, 15 loan officers trained on clean cooking solutions	Project Reporting Loan officers satisfaction questionnaires and training report	Finance institutions and RE Fund support the dissemination of EE appliances through financing facilities Supply and demand side are informed on the financing schemes
Project component 4: Quality assurance						
Outcome 4.1	Increased national capacity to uptake energy efficient	Institutional and commercial capacities of market enablers	Limited capacity to develop and enforce compliance with	Relevant market enablers are able to develop, enforce and follow	Project monitoring Training	Clear standards & performance labelling schemes

Results		Indicator (quantified and time-bound)	Baseline	Targets	Means of Verification	Risk and Assumptions
	appliances and clean cooking solutions in compliance with quality standards	from public & private sector for the supply and demand side	standards for energy efficient appliances and cook stoves	standards for EE solutions for the supply and demand side	satisfaction questionnaire & report	developed and communicated Market enablers and practitioners willing to participate in capacities training
Output 4.1.1	National Quality Assurance Committee on EE Solutions established to develop performance labelling schemes for EE appliances and standards for clean cooking solutions	<ol style="list-style-type: none"> 1. Dedicated committee on quality assurance for targeted EE solutions operational 2. Number of adapted performance labelling scheme for EE appliances incl. testing protocols 3. Number of standards developed for clean cooking incl. testing protocols 	<ol style="list-style-type: none"> 1. No dedicated committee for EE solutions exists. There is only one committee for electro technical standards 2. No performance labelling scheme for EE appliances 3. No standards for cook stoves and cooking fuels 	<ol style="list-style-type: none"> 1. National EE Solutions Committee under TGSB is put in place and operational 2. At least one performance labelling scheme for EE appliances developed incl. testing protocols 3. Standards for cook stoves and clean cooking fuels developed incl. testing protocols 	<ol style="list-style-type: none"> 1. Minutes of the National EE Solutions Committee 2. Project reporting, performance labels/stickers on EE appliances and enforcement 3. Project reporting, product certification and enforcement 	National EE Solutions Committee is effective and efficient as the existing National Electro technical Committee
Output 4.1.2.	Performance labelling scheme for EE appliances and standards for clean cooking operationalized	<ol style="list-style-type: none"> 1. Testing laboratory developed and operational 2. Number of TGSB trainees on testing and quality assurance 3. Numbers of installers of EE solutions trained and certified 4. Numbers of trainees on EE solutions, quality 	<ol style="list-style-type: none"> 1. No testing laboratory in the country 2. No training provided so far as no existing quality assurance measures are in place 	<ol style="list-style-type: none"> 1. One testing laboratory for ICA and for EE appliances are developed and operational 2. 15 TGSB staff is trained on testing EE solutions and quality assurance. At least 40% of the trainees are women, if possible 3. 20 installers of EE 	<ol style="list-style-type: none"> 1. Testing Laboratory implementation report and visits 2. Training reports & project reporting 	TGSB is able to build enough capacity to operate the testing laboratory appropriately.

Results		Indicator (quantified and time-bound)	Baseline	Targets	Means of Verification	Risk and Assumptions
		assurance, testing capacities, certification of installers		<p>solutions are trained and certified. At least 40% of the trainees are women, if possible.</p> <p>4. 40 market players and enablers are trained on performance labelling schemes for EE appliances and quality standards for ICS. At least 40% of the trainees are women, if possible.</p>		

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).
N.A.

ANNEX C: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS²⁴

A. Provide detailed funding amount of the PPG activities financing status in the table below:

PPG Grant Approved at PIF: \$45,000			
<i>Project Preparation Activities Implemented</i>	<i>GETF/LDCF/SCCF/CBIT Amount (\$)</i>		
	<i>Budgeted Amount</i>	<i>Amount Spent To date</i>	<i>Amount Committed</i>
Baseline Data Collection	6,000	6,000	-
Design of demonstration project (lighting, RACs and efficient cooking)	12,000	12,000	-
Project strategy and implementation modalities and co-financing mobilization	14,000	14,000	-
CEO Endorsement Request compilation	8,000	8,000	-
Finalization of CEO Endorsement Request Document and address of comments from GEF Secretariat	5,000	301	4,699
Total	45,000	40,301	4,699

²⁴ If at CEO Endorsement, the PPG activities have not been completed and there is a balance of unspent fund, Agencies can continue to undertake the activities up to one year of project start. No later than one year from start of project implementation, Agencies should report this table to the GEF Secretariat on the completion of PPG activities and the amount spent for the activities. Agencies should also report closing of PPG to Trustee in its Quarterly Report.

ANNEX D: WORKPLAN

Activity #	Activity Description	Year 1				Year 2				Year 3			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Project Component 1: National platform to foster nexus issues													
1.1.1.	National platform established and used on a regular basis to discuss and address the nexus between energy and policies, programmes and projects in other sectors												
1.1.1.1	Set up the national platform												
1.1.1.2	Organize meetings and logistics and coordinate with all members												
1.1.1.3	Identify capacity and knowledge gaps of platform members												
1.1.1.4	Develop training programme, implementation plan, training teams and training materials												
1.1.1.5	Conduct trainings												
1.1.1.6	Knowledge management of the national platform												
1.1.2.	Policy recommendations around energy and energy nexus issues are made												
1.1.2.1	Identify existing and missing policies on targeted energy and energy nexus issues topics and draw clear policy recommendations												
Project Component 2: Promoting the use of energy efficient appliances													
2.1.1	62,000 LED bulbs adopted in public buildings, street lights, households and private sector												
2.1.1.1	Implement demonstration projects												
2.1.1.2	Evaluate demonstration projects												
2.1.1.3	Raise awareness on EE lighting												
2.1.2	At least 1,030 other EE appliances are installed across the country												
2.1.2.1	Implement demonstration projects												
2.1.2.2	Evaluate demonstration projects												
2.1.2.3	Raise awareness on other EE appliances												
2.1.3	Technical and marketing & distribution skills related to EE appliances are built and 20 practitioners are trained												
2.1.3.1	Identify capacity and knowledge gaps of key stakeholders on EE appliances												
2.1.3.2	Develop training programme, implementation plan, training teams and training materials												

Activity #	Activity Description	Year 1				Year 2				Year 3			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
2.1.3.3	Conduct trainings												
2.1.4	Facilitating access to finance and other incentives for EE appliances dissemination on the supply and demand side												
2.1.4.1.	Design adapted financial mechanism(s) for EE appliances												
2.1.4.2.	Train FI representatives on risks and opportunities of EE for the finance sector												
2.1.4.3.	Support sensitization on available financial mechanisms												
2.1.4.4.	Evaluation of financial mechanisms												
Project Component 3: Promoting the production and use of efficient cook stoves and alternative cooking fuels													
3.1.1	17,000t of agro-waste promoted as clean cooking fuels												
3.1.1.1	Implement demonstration project on alternative clean cooking fuels												
3.1.1.2	Evaluate demonstration project												
3.1.1.3	Raise awareness on waste to energy for clean cooking fuels												
3.1.2	Private companies and distributors as well as public and development institutions engaged in manufacturing and distribution of 5,000 ICS												
3.1.2.1	Implement demonstration projects												
3.1.2.2	Evaluate demonstration projects												
3.1.2.3	Raise awareness on improved cook stoves												
3.1.3	Technical and marketing & distribution skills related to clean cooking solutions are built and 20 practitioners are trained												
3.1.3.1	Identify capacity and knowledge gaps of key stakeholders on clean cooking solutions												
3.1.3.2	Develop training programme, implementation plan, training teams and training materials												
3.1.3.3	Conduct trainings												
3.1.4	Facilitating access to finance and other incentives for clean cooking solutions dissemination on the supply and demand side												
3.1.4.1	Design adapted financial mechanism(s) for clean cooking solutions												
3.1.4.2	Train FI representatives on risks and opportunities of clean cooking solutions for the finance sector												
3.1.4.3	Support sensitization on available financial mechanisms												
3.1.4.4	Evaluation of financial mechanisms												

Activity #	Activity Description	Year 1				Year 2				Year 3			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Project Component 4: Quality assurance													
4.1.1	National Quality Assurance Committee on EE Solutions established to develop performance labelling schemes for EE appliances and standards for clean cooking solutions												
4.1.1.1	Develop a National Quality Assurance Committee on EE Solutions												
4.1.1.2	Establish and build capacity to enforce standards and performance labelling schemes												
4.1.1.3	Get feedback from the national platform for energy nexus issues and disseminate the quality assurance information												
4.1.2	Performance labelling scheme for EE appliances and standards for clean cooking operationalized												
4.1.2.1	Establish a clean cooking and an EE appliances testing laboratory												
4.1.2.2	Develop the testing and quality assurance capacity of TGSB												
4.1.2.3	Develop the capacity of and certify installers of EE solutions												
4.1.2.4	Deliver training on developed quality standards and performance labelling scheme to key stakeholders												
Project Component 5: Monitoring and Evaluation													
5.1.1	Initial environmental impact assessment carried out												
5.1.1.1	Undertake the Environmental Impact Assessment												
5.1.2	Project progress monitored, documented and recommended actions formulated												
5.1.2.1	Design M&E framework												
5.1.2.2	Implement M&E framework												
5.1.2.3	Develop and maintain the project website												
5.1.3	Terminal evaluation carried out												
5.1.3.1	Prepare and coordinate independent terminal evaluation												

ANNEX E: BUDGET BREAKDOWN

Project Components	Fin. type	Expected Outcome	Expected Outputs		UNIDO Budget Lines		GEF financing (USD)	Co-financing (from letters) (USD)	TOTAL	
					Code	Description				
Component 1: National platform to foster nexus issues	TA	1.1. Increased integration of energy issues into policies, programmes and projects into other sectors	1.1.1	National platform established and used on a regular basis to discuss and address the nexus between energy and policies, programmes and projects in other sectors	17	National consultant	10,000	15,000	25,000	
					21	Subcontract	15,000	30,000	45,000	
					15	Local Travel	2,000	20,000	42,000	
			1.1.2	Policy recommendations around energy nexus issues are made	51	Miscellaneous	6,000	80,000	86,000	
					30	Training/Workshops	15,000	180,000	195,000	
					21	Dissemination Campaign	8,000	75,000	83,000	
			Sub-total 1.1.1.					56,000	400,000	456,000
Sub-total Component 1						56,000	400,000	456,000		
Component 2: Promoting the use of energy efficient appliances	Inv	2.1 Increased use of efficient lights and other EE appliances	2.1.1	62,000 LED bulbs adopted in public buildings, street lights, households and private sector	21	Subcontract	509,981	1,774,847	3,242,163	
					21	Dissemination campaign	12,000	885,335		
			2.1.2	At least 1,030 other EE appliances are installed across the country	17	National consultant	15,000	45,000		
			2.1.3	Technical and marketing & distribution skills related to EE appliances are built and 20 practitioners are trained	21	Subcontract	65,000	365,000	430,000	
			2.1.4	Facilitating access to finance and other incentives for EE appliances dissemination on the supply and demand side	21	Subcontract	50,000	1,249,000	1,299,000	
			Sub-total 2.1.1.					651,981	4,319,182	4,971,163
			Sub-total Component 2						651,981	4,319,182
Component 3: Promoting the production	Inv	3.1 Increased production and use of efficient cook	3.1.1	17,000t of agro-waste promoted as clean cooking fuels	21	Subcontract	129,000	25,000	154,000	
					21	Dissemination campaign	12,000	33,723	45,723	

Project Components	Fin. type	Expected Outcome	Expected Outputs		UNIDO Budget Lines		GEF financing (USD)	Co-financing (from letters) (USD)	TOTAL
					Code	Description			
and use of efficient cook stoves and alternative cooking fuels		stoves and alternative cooking fuels			11	International Consultant	9,000	30,000	39,000
			3.1.2	Private companies and distributors as well as public and development institutions engaged in manufacturing and distribution of 5,000 ICS	21	Subcontract	420,550	224,443	644,993
					21	Dissemination campaign	18,000	273,511	291,511
					11	International Consultant	22,000	22,148	44,148
			3.1.3	Technical and marketing & distribution skills related to clean cooking solutions are built and 20 practitioners are trained	21	Subcontract	45,000	25,000	70,000
			3.1.4	Facilitating access to finance and other incentives for clean cooking solutions dissemination on the supply and demand side	21	Subcontract	50,000	74,000	124,000
			Sub-total 3.1.1.					705,550	707,825
Sub-total Component 3							705,550	707,825	1,413,375
Component 4: Quality assurance	TA	4.1. Increased national capacity to uptake energy efficient appliances and clean cooking solutions in compliance with quality standards	4.1.1	National Quality Assurance Committee on EE Solutions established to develop performance labelling schemes for EE appliances and standards for clean cooking solutions	21	Subcontract	18,000	112,550	130,550
			4.1.2	Performance labelling scheme for EE appliances and standards for clean cooking operationalized	21	Subcontract	126,000	225,000	351,000
			Sub-total 4.1.1.					144,000	337,550
Sub-total Component 4							144,000	337,550	481,550
Component 5: Monitoring & Evaluation	TA	5.1 Monitoring of results and evaluation	5.1.1	Initial environmental impact assessment carried out	21	Subcontract	7,000	58,000	65,000
			5.1.2.	Project progress monitored, documented and recommended actions formulated	11	International Consultant	30,000	7,000	37,000
					21	Subcontract	-	36,000	36,000

Project Components	Fin. type	Expected Outcome	Expected Outputs		UNIDO Budget Lines		GEF financing (USD)	Co-financing (from letters) (USD)	TOTAL
					Code	Description			
					16	Travel	-	20,000	20,000
					51	Miscellaneous	-	27,000	27,000
			5.1.3.	Terminal evaluation carried out	11	International consultant	25,000	22,000	47,000
			Sub-total 5.1.1.				62,000	170,000	232,000
			Sub-total Component 5				62,000	170,000	232,000
			SUBTOTAL				1,619,531	5,934,557	7,554,088
			Project Management Cost				161,953	483,456	645,409
			TOTAL PROJECT COST				1,781,484	6,418,013	8,199,497

ANNEX F: OUTPUT BASED BUDGET FOR THE GEF GRANT

GEF Grant Budget Component 1										
Component 1: National platform to foster nexus issues	Type of Expense	Yr 1		Yr 2		Yr 3		Output Total		Execution Modality
		w/w	\$	w/w	\$	w/w	\$	w/w	\$	
1.1.1. National platform established and used on a regular basis to discuss and address the nexus between energy and policies, programmes and projects in other sectors			1,000		500		500		2,000	Execution agreement with MoPE
	Local Travel									
	National Expertise		3,334		3,333		3,333	0	10,000	Execution agreement with MoPE
	Subcontract		5,000		5,000		5,000		15,000	Execution agreement with MoPE
	Output sub-total	0	9,334	0	8,833	0	8,833	0	27,000	
1.1.2. Policy recommendations around energy nexus issues are made		w/w	\$	w/w	\$	w/w	\$	w/w	\$	
	Training/Workshops		5,000		5,000		5,000	0	15,000	Execution agreement with MoPE
	Miscellaneous		2,000		2,000		2,000	0	6,000	Execution agreement with MoPE
	Subcontract		2,000		3,000		3,000		8,000	Execution agreement with MoPE
	Output sub-total	0	9,000	0	10,000	0	10,000	0	29,000	
TOTAL Component 1		0	18,334	0	18,833	0	18,833	0	56,000	

GEF Grant Budget Component 2

Component 2: Promoting the use of energy efficient appliances	Type of Expense	Yr 1		Yr 2		Yr 3		Output Total		Execution Modality
		w/w	\$	w/w	\$	w/w	\$	w/w	\$	
2.1.1. 62,000 LED bulbs adopted in public buildings, street lights, households and private sector										
	Subcontract		156,094		263,491		102,396		521,981	Execution agreement with project developers with support from ECREEE's energy efficiency programme
	Output sub-total	0	156,094	0	263,491	0	102,396	0	521,981	
2.1.2. At least 1,030 other EE appliances are installed across the country		w/w	\$	w/w	\$	w/w	\$	w/w	\$	
	National Expertise		5,000		5,000		5,000	0	15,000	Execution agreement with project developers with support from ECREEE's energy efficiency programme
	Output sub-total	0	5,000	0	5,000	0	5,000	0	15,000	
2.1.3. Technical and marketing & distribution skills related to EE appliances are built and 20 practitioners are trained		w/w	\$	w/w	\$	w/w	\$	w/w	\$	
	Subcontract		32,500		26,000		6,500	0	65,000	Execution agreement with MoPE
	Output sub-total	0	32,500	0	26,000	0	6,500	0	65,000	
2.1.4. Facilitating access to finance and other incentives for EE appliances dissemination on the supply and demand side		w/w	\$	w/w	\$	w/w	\$	w/w	\$	
	Subcontract		10,000		30,000		10,000		50,000	Execution agreement with financial institutions and MoPE

	<i>Output sub-total</i>	0	10,000	0	30,000	0	10,000	0	50,000	
TOTAL Component 2		0	203,594	0	324,491	0	123,896	0	651,981	
GEF Grant Budget Component 3										
Component 3: Promoting the production and use of efficient cook stoves and alternative cooking fuels	Type of Expense	Yr 1		Yr 2		Yr 3		Output Total		Execution Modality
3.1.1. 17,000t of agro-waste promoted as clean cooking fuels		w/w	\$	w/w	\$	w/w	\$	w/w	\$	
	International Expertise		3,000		3,000		3,000	0	9,000	UNIDO Technical Execution Support
	Subcontract		47,000		87,000		7,000		141,000	Execution agreement with project developers backed by the national clean cooking alliance
	<i>Output sub-total</i>	0	50,000	0	90,000	0	10,000	0	150,000	
3.1.2. Private companies and distributors as well as public and development institutions engaged in manufacturing and distribution of 5,000 ICS		w/w	\$	w/w	\$	w/w	\$	w/w	\$	
	International Expertise		4,000		4,000		3,000	0	11,000	UNIDO Technical Execution Support
	Subcontract		180,220		226,275		43,055		449,550	Execution agreement with project developers backed by the national clean cooking alliance
	<i>Output sub-total</i>	0	184,220	0	230,275	0	46,055	0	460,550	
3.1.3. Technical and marketing & distribution skills related to clean cooking		w/w	\$	w/w	\$	w/w	\$	w/w	\$	
	Subcontract		22,500		18,000		4,500		45,000	Execution agreement with MoPE

solutions are built and 20 practitioners are trained	Output sub-total	0	22,500	0	18,000	0	4,500	0	45,000	
3.1.4. Facilitating access to finance and other incentives for clean cooking solutions dissemination on the supply and demand side		w/w	\$	w/w	\$	w/w	\$	w/w	\$	
	Subcontract		10,000		30,000		10,000		50,000	Execution agreement with financial institutions and MoPE
	Output sub-total	0	10,000	0	30,000	0	10,000	0	50,000	
TOTAL Component 3		0	266,720	0	368,275	0	70,555	0	705,550	
GEF Grant Budget Component 4										
Component 4: Quality assurance	Type of Expense	Yr 1		Yr 2		Yr 3		Output Total		Execution Modality
4.1.1. National Quality Assurance Committee on EE Solutions established to develop performance labelling schemes for EE appliances and standards for clean cooking solutions		w/w	\$	w/w	\$	w/w	\$	w/w	\$	
	Subcontract		8,100		8,100		1,800		18,000	Execution agreement with TGSB
	Output sub-total	0	8,100	0	8,100	0	1,800	0	18,000	
4.1.2. Performance labelling scheme for EE appliances and standards for clean cooking operationalized		w/w	\$	w/w	\$	w/w	\$	w/w	\$	
	Subcontract		94,500		25,200		6,300		126,000	Execution agreement with TGSB
	Output sub-total	0	94,500	0	25,200	0	6,300	0	126,000	
TOTAL Component 4		0	102,600	0	33,300	0	8,100	0	144,000	

GEF Grant Budget Component 5

Component 5: Monitoring & Evaluation	Type of Expense	Yr 1		Yr 2		Yr 3		Output Total		Execution Modality
5.1.1. Initial environmental impact assessment carried out		w/w	\$	w/w	\$	w/w	\$	w/w		
	Subcontract		7,000						7,000	Execution agreement with NEA
	Output sub-total	0	7,000	0	0	0	0	0		
5.1.2. Project progress monitored, documented and recommended actions formulated		w/w	\$	w/w	\$	w/w	\$	w/w		
	International Expertise		10,000		10,000		10,000	0	30,000	UNIDO Technical Execution Support
	Output sub-total	0	10,000	0	10,000	0	10,000	0		
5.1.2. Terminal evaluation carried out		w/w	\$	w/w	\$	w/w	\$	w/w		
	International Expertise							25,000	25,000	UNIDO Technical Execution Support
	Output sub-total	0	0	0	0	0	0	25,000	25,000	
TOTAL Component 5		0	17,000	0	10,000	0	10,000	25,000	62,000	
Project Management Costs										
Project Management Costs (PMC).	Type of Expense	Yr 1		Yr 2		Yr 3		Output Total		Execution Modality
	Local Travel		5,000		5,000		5,000		15,000	UNIDO Technical Execution Support
	National Expertise (e.g. Project Coordinator)		41,985		41,984		41,984		125,953	UNIDO Technical Execution Support

	Equipment		2,000		2,000		2,000		6,000	UNIDO Technical Execution Support
	Miscellaneous		5,000		5,000		5,000		15,000	UNIDO Technical Execution Support
TOTAL PMC		0	53,985	0	53,984	0	53,984	0	161,953	

TOTAL	1,781,484
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ANNEX G: TERMS OF REFERENCE OF THE NATIONAL PLATFORM FOR ENERGY NEXUS ISSUES

ANNEX H: DEMO PROJECT PROFILE TEMPLATE

ANNEX I: DEMO PROJECT PROFILES

ANNEX J: BUDGET FOR LABORATORIES

ANNEX K: CO-FINANCING LETTERS

ANNEX L: DEMO PROJECTS EVALUATION AND AWARENESS RAISING ACTIVITIES

ANNEX M: REQUEST FOR UNIDO EXECUTION SUPPORT SERVICES

ANNEX I: DEMO PROJECT PROFILES

Demo Project Name	Petrogas – EE solutions one-stop-shop for customers & EE gas stations			
Project Components of UNIDO GEF6 project concerned	• PC2 – EE appliances			
Main challenges to be solved by the demo project	1. Limited PoS for quality LED light bulbs in the country 2. Limited PoS for improved cooking energy solutions			
Short description of the demo project	This project involves PetroGas to act as a one-stop-shop offering EE light bulbs to households across The Gambia. Besides, the gas stations will serve as collection points for discarded bulbs.			
Target Geographic Area	• Greater Banjul Area • Northern provinces like Farafenni, Essau, Kaur • Southern provinces like Bansang, Basse, Soma			
Expected results	1. Support 12 MW savings over a period of 3 years for households through LED lights sold in gas stations shops 2. Convert gas stations into chain of one-stop-shops selling EE lights. 3. Collect used bulbs (incandescent and LED)			
<u>For EE appliances</u>	Sale of LED Lights to 2,500 House Holds for 3 years			
	Savings in kWh	Savings in USD	Savings in fuel L	Savings in USD
	12,000	150,000	n.a.	-
	GHG emission reduction		tbd	
Beneficiaries (incl. number)				
Direct	At least 2,500 Household customers for LED lighting			

<i>Indirect</i>	<ul style="list-style-type: none"> • Improvement in the lives of 5-6 people / household • Decrease in GHG emissions
Partners	n.a.
Technical know-how available in the Gambia	Installation of EE appliances
Sustainability/ commercial viability	Continuous investment to increase the number of EE solutions available in the shops
Risk factors & mitigation	
Scaling-up potential	Installation of EE solutions in all the stations networks
Replicability	The success of the project could be replicated by other gas stations in the country and abroad.
Budget & contribution of partners	PetroGas
	USD 50,000
	n.a.
Overall demo project budget	USD 50,000
Budget gap/needs requested from GEF6 <i>(incl. financial & non-financial)</i>	USD 10,000 Financial – To install collection points for light bulbs in the gas stations Non-financial - To raise awareness in Gambia about availability of LED light bulbs & collection of used bulbs in One Stop Shop of gas station network

<p>Part of the gap to be covered by the UNIDO GEF6 project if project is selected</p> <p><i>(incl. financial & non-financial)</i></p>	<p>[To be filled in by PSC]</p>
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Demo Project Name	Africell: Mainstreaming EE within the telecom network
Project Components of UNIDO GEF6 project concerned	<ul style="list-style-type: none"> PC2: EE Appliances
Main challenges to be solved by the demo project	<p>It is expected that the full implementation of the Demo Project will lead to:</p> <ol style="list-style-type: none"> 1. Reduce the dependence on fuel generators 2. Reduce dependency of unreliable source of power i.e. the main grid 3. Reduce monitoring and maintenance cost 4. Create sustainable socioeconomic benefits for the people, especially the rural poor
Short description of the demo project	<p>In early 2015, we, Africell conceived the idea to power our base stations using solar energy, as we do believe that Renewable Energy (RE) is the way for a sustainable and green future. In late 2015, Africell carried out a pilot project on renewable energy at one of our sites. The project was a success and was replicated in eleven (11) other sites. In view of these successes, Africell is proposing a project to install approximately 1 kWh wind power and 14 kWh solar arrays as well as 9 LED light bulbs per site on the entire network (128 sites). At our HQ, we have started to shift to EE A/Cs and LED light bulbs. To move further in saving energy costs and reducing GHG emissions (additionality of the GEF6 project), Africell intends to shift to EE A/Cs on 90 sites (2 per sites) as well as LED light bulbs and EE A/Cs in 21 Africell outlets across the country.</p>
Target Geographic Area	<p>The targeted area is nationwide. In our quest for universal access, our sites are in remote areas to provide network services to people all over the country and not just in urban centers.</p>
Expected results	<ol style="list-style-type: none"> 1. The expected results are running all our 128 sites on energy efficiency appliances 2. Reduction of carbon emission by installing energy efficiency appliances within our network 3. Better and quality services to our customers all over the country
Beneficiaries	
Direct	<p>Explicit beneficiaries of the project include Africell as well as the network users (both in rural and urban centers). The greatest number of beneficiaries is women and the youths.</p>
Indirect	<ul style="list-style-type: none"> The contribution of women in telecommunication is high. Most women are engaged in petty trade such as the making of tie and dye and batiks. They need mobile phones to communicate with each other regarding their business issues. It is assumed that almost every young adult and adult female uses a mobile phone and Africell being the number one operator with over 60% of the subscriber base, is bound to play a major

	role in making communication seamless for these business women <ul style="list-style-type: none">• Most youths are self-employed by engaging in buying and reselling of Africell credit air time all over the country.• Both women and youths that do not have access to banking are now using AfriMoney to bank, transfer and receive money throughout the country through their cellular phones.					
Partners	Name			Role		
	There are no partners only Africell			Co-financing and project implementation		
Technical know-how available in the Gambia	Africell has a group of electrical engineers and telecommunication technicians who are quite capable of doing all the installations. The technical know-how is available within our manpower. The implementation of the project will specifically result in the engagement of Project Management Unit, compound owners, traditional Gambian village chiefs and the larger communities to work with Africell in this economically viable venture which will enhance their living conditions.					
Sustainability/ commercial viability	Shifting to EE appliances (LED light bulbs and EE A/Cs) will lead to significant cost savings. Based on the fact that both incandescent light bulbs and regular A/Cs using R22 gas will have to be phased out in the coming years in the Gambia, the urge to shift to more EE solutions is amplified.					
Risk factors & mitigation						
Scaling-up potential	The success of the targeted demo project sites shifting to 100% RE can be scaled up to the [20-demo project sites] to entirely move to RE & EE, spread across the country.					
Replicability	Africell Gambia is one of many other Africell companies throughout African. We have Africell in Sierra Leone, Uganda and Congo. If this Demo project is successful, it will be replicated throughout the country and to all other Africell branches in Africa.					
Budget & contribution of partners	Africell					
	[Financial Contribution in USD]					
	USD 784.315					
Overall demo project budget	The Estimated Cost of investment is in the table below:					
	ITE M #	DESCRIPTION	UNIT PRICE	QTY	SUB-TOTAL(GM D)	SUB-TOTAL(US D)
	1	Energy Efficiency Air	25,000	100	GMD	USD 53,191

		Conditions			2,500,000	
	2	Energy Efficiency Air Conditions for 90 sites (2 per site)	25,000	180	GMD 4,500,000	USD 95,745
	3	Energy Efficiency Air Conditions for 21 Africell outlets	25,000	42	GMD 1,050,000	USD 22,340
	4	Energy Efficiency Air Conditions for 10 future Africell outlets	25,000	20	GMD 500,000	USD 10,638
	5	Led Tower lights for 128 Africell Outlets (1 LED tower light per site)	400	128	GMD 51,200	USD 1,089
	5bis	Led lights for 128 sites (8 LED lights per site)	400	128* 8	GMD 409,600	USD 8,715
	6	Led lights for 21 Africell Outlets	400	105	GMD 42,000	USD 894
	7	Led lights for 10 future Africell Outlets	400	50	GMD 20,000	USD 426
	8	Led lights Head Office (HQ)	400	1000	GMD 400,000	USD 8,511
	9	SMS to 1.5 Million Subscribers	9,000,0 00	3	GMD 27,000,000	USD 574,468
	10	Labor	125,000	1	GMD 125,000	USD 2,660
	11	Transportation	65,000	1	GMD 65,000	USD 1,383
	12	Engineering	10,000	20	GMD 200,000	USD 4,255
	GRAND TOTAL				GMD 36,862,800	USD 784,315
	Hence the total cost of our Energy Efficiency (EE) project within the next three (3) years is GMD 36,862, 800.00 (USD 784,315).					

Budget gap/needs requested from GEF6	USD 80.000
Part of the gap to be covered by the UNIDO GEF6 project if project is selected (<i>incl. financial & non-financial</i>)	[To be filled in by PSC]

Demo Project Name	LED street lighting
Project Components of UNIDO GEF6 project concerned	<ul style="list-style-type: none"> • PC2 – EE lighting
Main challenges to be solved by the demo project	<ol style="list-style-type: none"> 1. Significant energy consumption on street lighting 2. Use the energy saved from the streetlights to supply other customers that would not have the opportunity to use it during that period of time. 3. Significant maintenance cost of operating the street lights
Short description of the demo project	<p>Replacement of 9,000streetlight (HPS Street lights Bulbs to Corn LED Bulbs) out of which 5,000 are already covered by funds from the World Bank, EIB and the EU.</p> <p>The demo project to be covered by UNIDO GEF6 should cover the acquisition and replacement of 500 streetlight bulbs in rural areas.</p> <p>The main objective is to reduce energy consumption of our present HPS street bulbs to Led corn bulbs and thereby make savings. It involves the replacing of HPS bulbs to LED bulbs to reduce the electricity bill of our municipalities in the country.</p>

Target Geographic Area	Greater Banjul Area (GBA) and the provinces of the Republic of the Gambia: <ul style="list-style-type: none">Banjul, Serrekunda, Bakau. Banjulinding, Brikama and T D AreaBansang and Basse areasFarafinne and Bara North bank			
Expected results	<ol style="list-style-type: none">9,000 light bulbs changedSave up to 6MW of generation from the energy from the street lighting to be use by other customersReduce load shedding by 5%Reduce cost on the streetlight bills for the local government Authorities who are responsible to settling billsEnforced use of energy efficiency lighting system in the futureReduced maintenance cost of operating the street lights			
<u>For EE appliances</u>	[Corn LED Bulbs 9000]			
	<i>Savings in kWh</i>	<i>Savings in USD</i>	<i>Savings in fuel L</i>	<i>Savings in USD</i>
	150kwh per bulb] 5,913MW per year	USD 1,287,000 per year for the 9000 bulbs	1108756 L per year	
	<i>GHG emission reduction</i>			
Beneficiaries (<i>incl. number</i>)				
<i>Direct</i>	<ul style="list-style-type: none">800,000 people among them 416,000 womenThe local government AuthoritiesNAWEC on paid billsGambia Government saving money on the importation of fuel			
<i>Indirect</i>	<ul style="list-style-type: none">The connection of “new additional customers” to the mini-grid. These additional customers are expected to replace wood, paraffin, and battery powered lighting with electricity			
Partners	<i>Name</i>		<i>Role</i>	
	<i>World Bank, EIB, EU</i>		<i>Financier</i>	
	<i>NRA</i>		<i>Installation & Maintenance</i>	
	<i>NAWEC</i>		<i>Procurement Process Coordination</i>	
Technical know-how available in the Gambia	Designing of street lighting projects			

Sustainability/ commercial viability	The project is sustainable due to cost saving it generates with a payback period of one year			
Risk factors & mitigation	<p>Risks associated with financing the total projects</p> <p>Procurement risk refers to the risk of failed or flawed procurement, the development of high quality templates for tender bid and transparency in the tender dossier are critical. To mitigate financing risks NAWEC in partnership with MOPE are seeking funding from other sources. As a solution to the procurement risk, NAWEC will receive technical assistance from ECREEE/GIZ technical assistance program to draft tender documents per international standards.</p>			
Scaling-up potential	High scale-up potential as LED street lighting could be used for future street lighting projects in The Gambia and abroad			
Replicability	n.a			
Budget & contribution of partners	World Bank, EIB & EU	NRA	NAWEC	
	\$600,000.00			
		Installation & Maintenance	Procurement process coordination	
Overall demo project budget	USD 1,000,000			
Budget gap/needs requested from GEF6 <i>(incl. financial & non-financial)</i>	<p>USD 55.500 for the provision of 500 LED bulbs in rural areas</p> <p>Financial:</p> <p>Per LED bulb:</p> <ul style="list-style-type: none"> • USD 100 for the acquisition/import of an LED street light bulb • USD 10 for the replacement of an incandescent bulb to an LED bulb 			
Part of the gap to be covered by the	[To be filled in by PSC]			

UNIDO GEF6 project if project is selected <i>(incl. financial & non-financial)</i>	
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Demo Project Name	Introducing EE solutions in community gardens
Project Components of UNIDO GEF6 project concerned	<ul style="list-style-type: none"> • PC 2: Support to community gardens
Main challenges to be solved by the demo project	<ol style="list-style-type: none"> 1. Post-harvest losses from community gardens 2. Food and nutrition insecurity 3. Stunting in children under nutrition
Short description of the demo project	<p>Rains in The Gambia during the 2014 planting season were late, erratic and insufficient. The pre- and post-harvest assessment of November 2014 undertaken by the Ministry of Agriculture with support from the Permanent Interstates Committee for Drought Control in the Sahel (CILSS), FAO, UNICEF and WFP indicated a 50% reduction in harvest on the 5 year average of all cereals and paddy rice. The 2015 pre-and post-harvest assessments showed no improvement in the production. Furthermore, due to the Ebola Virus Disease (EVD) scare in the region over 2014/2015 season, tourism income declined significantly, with bookings reportedly reduced by 60-70% from the seasonal average¹. As a result, there was a crisis in the tourism sector which is estimated to be responsible for 15% of gross domestic product (GDP) and a significant source of internal remittances for Gambians operating as seasonally employed workers.</p> <p>Additionally, the rural poor in The Gambia have been impacted significantly by increased commodity prices, reduced domestic agricultural production as a result of climate change (droughts, floods and erratic rains) and unsustainable production systems, and declining income streams of the country's largest income earner, tourism. There has been a negative trend for a number of years from which was particularly acute in the 12 months period up to October 2015. The 2013 Protracted Relief and Recovery Operation (PRRO) food security baseline study reported that approximately half of the targeted households in CRR spent more than three quarters of their disposable income on food, with rice being the most purchased commodity. Households were therefore highly vulnerable to market price increases of major staple foods.</p> <p>Under-nutrition is a major public health problem in the Gambia. The Gambia Demographic and Health Survey (DHS) 2013 showed that 24.5% of children under five</p>

¹ IMF Press release, April 2015

	were stunted while the Multiple Indicator Cluster Survey (MICS) of 2005 reported 22.4% stunting. Wasting among children under five has also significantly worsened from 6.4% (MICS 2005) to 11.5% (DHS 2013). Indicative preliminary data from the recently finalised national nutrition surveys in the Gambia undertaken by NaNA also suggests increased rates in both chronic and acute malnutrition.			
Target Geographic Area	<ul style="list-style-type: none">• North Bank Region• Lower River Region• Central River Region• Upper River Region			
Expected results	<ol style="list-style-type: none">1. Reduction in post-harvest losses in the intervention gardens2. Sustainable energy production3. Increased production in the integrated gardens			
For EE appliances	EE cold storage processing units and EE lighting			
	Savings in kWh	Savings in USD	Savings in fuel L	Savings in USD
	[If applicable]	[Indicate average NAWEC tariff & total savings]	[If applicable]	[Indicate average oil price & total savings]
	GHG emission reduction		tbd	
Beneficiaries (incl. number)				
Direct	<ul style="list-style-type: none">• 500 women• 50 men• 20 youth			
Indirect	<ul style="list-style-type: none">• 2000 women• 500 men• 500 youth			
Partners	Name		Role	
	FAO		FAO has the primary responsibility for all projects monitoring and reporting and will provide technical assistance for the measurement of outcomes related to production and household income increase.	
	MOA		Lead national implementing partner. The MOA will coordinate activities through its line Departments and Service Units.	
	DOA		Promote livelihood diversification and	

		intensification to farmers, community mobilization, and local monitoring, compilation of feedback from farmers.
	DLS	Technical support to the poultry and small ruminant component
Technical know-how available in the Gambia	The Agriculture Service Units like Horticulture, Food Technology Service and Agribusiness have sufficient technical knowledge and experience on community gardening including processing and value addition. The Songhai-Gambia initiative is also producing lot of graduates on modern horticulture techniques	
Sustainability / commercial viability	<p>The rejuvenation of the rural economy through an enabling business development environment and services coupled with increasing demand for good quality vegetable products, this intervention will prevent losses after harvest and therefore encourage farmers to produce more to meet the growing demand.</p> <p>The Project works with and through the local government structure to develop their capacity to take on the Project challenges after the FAO and GEF funding is completed. This Project will support these to perform their mandate – that is a capacity development-by-doing approach. After this Project, the Farmer Groups will have the technical and organizational skills.</p>	
Risk factors & mitigation	Risk	Mitigation
	The availability of credible and timely data to inform targeting of beneficiaries	Efforts will be undertaken to collate data from recently completed or ongoing nationwide surveys (Integrated household survey, Country status report). Collaborative arrangements with initiatives such as Food Security Monitoring System (FSMS) will be established to collate additional data and also for validation.
	Insufficient institutional support and political commitments	The proposed project is strongly supported by the Ministry of Agriculture (MOA), and the GEF focal point in The Gambia. Direct linkages to existing and planned baseline project/development activities implemented by the Government, FAO and other partners will provide a strong foundation to mitigate this risk.
	Inadequate capacity at national, local and community level to support diversification and intensification; livestock and rangeland management is just emerging and may be	The project will build on existing baseline projects activities specifically those targeting capacity development at national, regional and local community levels to strengthen the operationalization of the community gardens

	difficult to operationalize effectively.			
	Impacts of increasing climate variability may increase to the extent that even if the project implements activities to improve livelihood diversification at local level, it may not be enough to make a difference. The diversification and intensification strategies may also lead to emergence of new threats such as pest and disease infestations.	The project will make sure to implement a suitable approach to diversification, intensification in crop production and better livestock management that underpins fundamental scientific principles and participatory methods and mechanisms that will enable stakeholders to adopt suitable measures. The project will seek to put in place processes and tools that will enable beneficiaries to adapt diversification and intensification strategies so that they translate into practical, improved management on the ground for any given context defined by any given threat.		
Scaling-up potential	Following the tremendous success of the MDG1C project, and the increasing adoption of the integrated models in the community gardens throughout the country, the project has great potential to be scaled-up nation wide			
Replicability	The project can be replicable in all the regions in the country where potential integrated model gardens exist.			
Budget & contribution of partners	[Partner 1] FAO	[Partner 2] DOA	[Partner 3]DLS	[Partner 4]
	[Financial Contribution in USD]	[Financial Contribution in USD]	[Financial Contribution in USD]	[Financial Contribution in USD]
	[In-kind contribution in USD] 400,000	[In-kind contribution in USD] 20,000	[In-kind contribution in USD] 20,000	[In-kind contribution in USD]
Overall demo project budget	USD 515,000			
Budget	USD 75,000 (USD 65, 000 financial and USD 10,000 non-financial)			

<p>gap/needs requested from GEF6</p> <p>(incl. financial & non-financial)</p>	
<p>Part of the gap to be covered by the UNIDO GEF6 project if project is selected</p> <p>(incl. financial & non-financial)</p>	<p>[To be filled in by PSC]</p>

Demo Project Name	Promoting alternative cooking fuels
Project Components of UNIDO GEF6 project concerned	<ul style="list-style-type: none"> • PC 3
Main challenges to be solved by the demo project	<ul style="list-style-type: none"> • 95% of the population uses firewood, 1 kg/day e.g. no more forests in the Gambia in 35 years at this pace • 8-10t firewood used per day by industries • fuel wood market/trade control/monitoring is insufficient • Illegal cross border fuel wood trade
Short description of the demo project	<p>Closely linked to technology/ICS demo project and fish smoking demo projects</p> <p>Targeted alternative fuels:</p> <ul style="list-style-type: none"> • Production and promotion of briquettes, pellets and biochar <p>Main activities:</p> <ul style="list-style-type: none"> • Identify bulk fuel wood consumers and their associations to be introduced to alternative fuels (i.e. fish smokers, bakers, restaurants, school feeding, prisons, military camps, soap and candle making, tie dye, kilns, boilers, etc.) and involve them in sustainable forestry/woodlots/agroforestry and bio-waste fuel projects below • Alternative income generation for fuel wood collectors and charcoal producers, i.e. through women gardening, agroforestry, alternative fuel production and sales, etc. • Support of production, introduction and retail of briquettes, pellets and biochar from bio waste • Participatory development, testing and production of improved combustion technologies for alternative fuels according to local and sectorial needs • Establishment of sales point/delivery service for alternative fuels and efficient combustion technologies
Target Geographic Area	<ul style="list-style-type: none"> • Greater Banjul area and peri-urban centers, where fuel wood consumers pay for their fuel wood • in connection with CN fish smoking: Tanji, Sanyang, Gunjur , Brufut, Ghanatown, Bakau, Banjul; for industries: Kanifing • for cafeterias: schools, orphanages, prisons, etc. in Banjul and the GBA
Expected results	<ul style="list-style-type: none"> ○ Alternative income support for about 300 fuel wood collectors and charcoal producers (for at least) the three forest sites above, through women garden enhancement and involvement in sales of alternative fuels ○ 100bulk consumer institutions and community representatives sensitized on alternative fuel options through a collective workshop,

	20 to be followed up in detail upon LOI <ul style="list-style-type: none"> ○ Alternative fuels (briquettes, pellets, bio-char) piloted in adapted technologies for bulk consumers in at least 20 sites ○ 12 Retail points and a delivery service established for briquettes, pellets and bio-char and the respective technologies ○ Research and technologies available to produce and use pellets, briquettes, and bio-char as well as syngas from bio-waste for cooking and heating, whilst producing bio-char 	
<u>For clean cooking</u>	[Alternative cooking fuels]	
	<i>See HH Energy Study 2004 for charcoal and firewood consumption in GBA: 10t charcoal and 300.000t firewood/year or data from last forest inventory</i>	[If applicable]
	<i>GHG emission reduction</i>	tbd
Beneficiaries (<i>incl. number</i>)		
<i>Direct</i>	<ul style="list-style-type: none"> • 300 women • 150 youth • 100 fuel wood consuming enterprises and industries • 300 Fuel wood collectors and char coal producers • 20,000 households using the alternative sustainable fuels 	
<i>Indirect</i>	<ul style="list-style-type: none"> • All community member • All communities depending on forestry products and services for their daily needs 	
Partners	<i>Name</i>	<i>Role</i>
	<i>Greentech</i>	<i>Briquettes & Biochar Producer</i>
	<i>Ger Bal</i>	<i>Biochar Producer</i>
	<i>Musa Samoura</i>	<i>Biochar Producer</i>
	<i>Cashew Federation</i>	<i>Cashew shells to Greentech & Ger Bal to produce & biochar</i>
	<i>GTTI and research institutes</i>	<i>Technology development support, i.e. for extraction of syngas under production of biochar or alternative use of bio-waste briquettes or pellets for current bulk fuelwood and charcoal consumers</i>
	<i>My Farm, ADWAC and NATC</i>	<i>Sustainable Woodlots, Agroforestry, and Silvopastoral systems and non-timber forest</i>

		<i>products</i> <i>Sensitization on alternative fuels</i>		
	<i>KOMFFORA</i>	<i>Sensitization Campaigns</i>		
	<i>Standards Bureau</i>	<i>Standards for alternative cooking fuels</i>		
Technical know-how available in the Gambia	The partners have all the necessary technical and operational skills to implement this project. Additionally, there is enough resources in the country to support ant provide technical assistance.			
Sustainability/ commercial viability	<ul style="list-style-type: none">• Alternative income generation above profit from fuel wood sales• Income generation and employment opportunities through bio-waste fuel production and trade• Support programs and financial incentives for bulk consumers to make a change• Avoided natural disaster reparation costs through forest protection and mitigation of climate change			
Risk factors & mitigation	<ul style="list-style-type: none">• Seasonal availability of resources, fragile to droughts or floods – storage and multi fuel technologies• Affordability and availability of the briquettes and biochar for the consumers• Sabotage – involvement of all stakeholders• Natural Disaster – Climate Change Adaptation Strategy, Disaster Preparedness Strategy• Conflicts – Support Political stability			
Scaling-up potential	This project can scale-up to cover the whole country. There is enough demand for the project to grow manifold.			
Replicability	Extension and expansion within and beyond country, as the heavy reliance on wood and charcoal is a regional challenge.			
Budget & contribution of partners	Greentech	Ger Bal	Samboura	Cashew Federation
	n.a.	tbd	tbd	n.a.
	Project support 40hours/month: USD 101.100 over 3 years +USD 300.000	tbd	tbd	USD 10,000 for 20t of cashew shells

	biochar & briquette equipment			
Overall demo project budget	Estimated 500 K USD			
Budget gap/needs requested from GEF6 <i>(incl. financial & non- financial)</i>	Estimated 150.000 USD			
Part of the gap to be covered by the UNIDO GEF6 project if project is selected <i>(incl. financial & non- financial)</i>	[To be filled in by PSC]			

Demo Project Name	Promoting the FTT EE stove for fish smoking
Project Components of UNIDO GEF6 project concerned	<ul style="list-style-type: none"> • PC 3
Main challenges to be solved by the demo project	<ul style="list-style-type: none"> • High wood consumption • Significant post-harvest losses • Quality of smoked fish • High exposure of women to toxic fumes and pollutants
Short description of the demo project	<p>The state of fish processing available facilities and techniques leave much to be desired and raises concern over product quality and safety, value of products and post-harvest fish losses. The low quality of products are a direct result of lack of upgrading of women's fish processing facilities and techniques, with improved quality hygiene and food safety standards. The low quality of traditionally processed fishery products from fish landing sites limits access to certain export markets, which could otherwise provide better market opportunities and value.</p> <p>Fish smoking techniques and equipment are not fuel-efficient and consume large quantities of firewood, which adds to depletion of forest resources and degradation to the environment. They contribute to emission of greenhouse gases (CO₂). Increasingly scarce supplies and high cost of firewood, leaves women fish smokers indiscriminately using other inappropriate alternative fuels such as cartons in fish smoking operations. These practices introduce toxic substances on to smoked products in defiance of food safety requirements with medium to long-term health implications. Fish smoking techniques also expose operators themselves to health risks from smoke and toxic fumes emitted from the process. It is therefore vital to introduce improved fish processing techniques and appropriate technology transfer or adaptations to improve quality and food safety of products, but also health standards and work safety environments.</p> <p>With the implementation of the FAO funded TCP Project on the development of artisanal fisheries in The Gambia, women fish processors benefitted from training of improved fish handling, processing and preservation skills. These women are members of Community Based Organizations (CBOs) from the project's beneficiary communities.</p> <p>With this improved technical know-how it is essential to provide these women with the FAO Thiaroye Technology - FTT stove in order for</p>

	<p>them to produce high quality fish with increased income and use of low firewood consumption.</p> <p>The FTT, a fish smoking and drying technology developed and introduced in Thiaroye, Senegal by FAO, is a good candidate for technology transfer options. It has a proven capability to bring about the missing link and appropriateness to contribute to addressing the challenges of fish smoking and drying thereby positively impacting on women's livelihoods. The technology has proven track record in Senegal, Côte d'Ivoire, Tanzania and Ghana. The FTT will provide a huge opportunity to contribute to alleviating the challenges of fish smoking and drying operations of artisanal women fish processors in the Gambia.</p> <p>The FTT focuses on reducing the amount of wood used as fuel by adding stones and thus decreasing the required amount of coal. It also easily adapts to other fuels such as coconut husks and shells, stems or corn cobs and millet, sugar-cane bagasse. The use of the FTT means less deforestation and better protection of mangroves, resulting in a positive impact on natural resources. This also allows processors to spend less money for their fuel needs.</p> <p>In addition, it allows the processing of smoked and dried fish products that better meet food safety requirements. Moreover, consumer confidence will be enhanced with superior-quality products that meet their expectations.</p> <p>Furthermore, it will allow easy access to lucrative markets, given the products' good quality and uniform characteristics. It will offer opportunities to process fisheries products and store them for a long period. This allows for leverage against price fluctuations until optimal market conditions are met. This will enable the women to have better prices for the produce thus increase their income.</p> <p>The women will use user charge fees of the fish smoking facilities and proceeds will be deposited in their CBO bank accounts for maintenance purposes of the facilities.</p>
Target Geographic Area	<ul style="list-style-type: none"> • Tanji, West Coast Region • Brufut, West Coast Region
Expected results	<ul style="list-style-type: none"> • 5-10 fish smoking stoves installed in each targeted geographic area • 12 local artisans trained by private sector on construction of FTT • Production of high quality smoked fish • 50 women and youths fish smokers trained on improved fish smoking techniques using the FTT

	<ul style="list-style-type: none"> • 10 Fisheries extension staff trained on use of FTT • Increase income • Reduce post-harvest losses • Create employment 	
<i>For clean cooking</i>	FTT Fish Smoking Kilns	
	<i>Quantity of firewood/charcoal saved</i> Ratio (fuel quantity per 1 kg of fresh fish) Charcoal 0,4/1; Charcoal + stones 0,25/1; Coconut shells 0,8/1	[If applicable]
	<i>GHG emission reduction</i>	tbd
Beneficiaries (<i>incl. number</i>)		
<i>Direct</i>	<ul style="list-style-type: none"> • 30 women fish smokers • 20 youth- fish smokers • 12 local artisans • 10 Fisheries extension staff trained for TOT on use of FTT 	
<i>Indirect</i>	<ul style="list-style-type: none"> • 1200 beneficiaries in the beneficiary and neighboring communities 	
Partners	<i>Name</i>	<i>Role</i>
	<i>FAO</i>	<ul style="list-style-type: none"> • <i>Capacity building for fish smokers on use of improved fish smoking kilns- FTT</i> • <i>Identification of fish smokers in collaboration with Fisheries Department</i> • <i>Identification of area to build FTT smoking kilns in collaboration with Fisheries Department</i>
	<i>Greentech</i>	<ul style="list-style-type: none"> • <i>Training local artisans</i> • <i>Certifying them and having one staff in each targeted area at no cost to project</i>
	<i>Fisheries Department</i>	<ul style="list-style-type: none"> • <i>Work in collaboration with FAO on Capacity building for eventual TOT on use of improved fish smoking kilns- FTT and sustainability</i> • <i>Identification of fish smokers</i>

		<ul style="list-style-type: none">• <i>Identification of area to build FTT smoking kilns in collaboration with FAO</i>• <i>Daily support & local commitment</i>		
	<i>Cashew Federation</i>	<i>Providing firewood (necessary trimming/pruning) cutting from cashew tree to fish smokers e.g. sustainable fuel sources</i>		
	<i>Forestry staff</i>	<i>Forest management plan of the intervention zones</i>		
Technical know-how available in the Gambia	<ul style="list-style-type: none">• Improved Fish handling and smoking skills			
Sustainability/ commercial viability	The involvement and participation of fishers with a sense of ownership of the project by the beneficiaries to implement the project particularly at the community level will ensure sustainability. Also capacity created during project implementation for fish processors, CBOs, local artisans and government fisheries extension agents will contribute to the sustainability of project achievements beyond its implementation. Sustainability will be guaranteed through the involvement of personnel of the Department of Fisheries in the regions as well as Community-Based Organizations.			
Risk factors & mitigation	There is a risk that the enthusiasm and commitment of the Department of Fisheries, Community-Based Organizations, Fisher Processors (both youths and women) and other key stakeholders may have been overstated and that the expected level of cooperation in project implementation may not be realized. Routine Monitoring and Evaluation by Project Management, and FAOR-Gambia, as well as by the Department of Fisheries would quickly identify problems and remedial actions taken to ensure successful project implementation.			
Scaling-up potential	With increased demand for high quality smoked fish products both for domestic and export markets. The demand for the FTT fish smoking kilns will be high.			
Replicability	The FTT could be replicated in other fisheries communities along the Atlantic coast and in the inland fisheries communities where fish smoking is practiced using traditional methods that consumed a lot of firewood.			
Budget & contribution of	[Fisheries	[FAO]	[Green Tech]	[Cashew Federation]

partners	Department]			
	Financial Contribution in USD22,000	Financial Contribution in USD200,000	Financial Contribution in USD8,000	Financial Contribution in USD3,000
	[In-kind contribution in USD(Time & expertise)	[In-kind contribution in USD(Time & expertise	[In-kind contribution in USD(Time & expertise	[In-kind contribution in USD(Time & expertise
Overall demo project budget	USD 331,000.00			
Budget gap/needs requested from GEF6 <i>(incl. financial & non-financial)</i>	USD 100,000.00 Financial USD90,000 and Non-Financial USD10,000			

Demo Project Name	Technology – ICS for households
Project Components of UNIDO GEF6 project concerned	<ul style="list-style-type: none"> • PC 3
Main challenges to be solved by the demo project	<ol style="list-style-type: none"> 1. Availability & affordability of the ICS 2. So far different stoves were produced depending on the area: urban/peri-urban and rural areas 3. Poor business models (distribution and operations) 4. Low production capacity e.g. ABCGaye: 50 ICS/month Greentech: training welders for Elsa (gasifier) and Greentech stoves (e.g. not producing themselves)
Short description of the demo project	<p>Two levels: Quality + quantity + affordable ICS for households</p> <ol style="list-style-type: none"> 1. <u>Centralized package/supply</u>: <ul style="list-style-type: none"> ○ Centralized facility for semi-industrial production of targeted ICS stoves ○ User training ○ Availability & affordability (economies of scale) ○ Training local distributors for sales, user training and maintenance 2. <u>Decentralized supply</u> <ul style="list-style-type: none"> ○ Training local artisans/welders incl. women welders as they are cooking themselves
Target Geographic Area	<ul style="list-style-type: none"> • Banjul • Serrekunda • Brikama • Basse • Farafenni • Soma • Barra • Bansang • Kuntaur • Brikamaba • Janjanbureh • Kaur • Wassu • Kerewan • Essau
Expected	<ul style="list-style-type: none"> ○ To reduce the amount of money spent on firewood and charcoal daily by 50 %. ○ To create employment opportunities for potters, metal workers and masons. ○ Improve the health of Women and Children (reduce smoke risks)

results	<ul style="list-style-type: none"> ○ Reduce deforestation, soil erosion and reduce Co2 emissions. ○ Production of 15 to 20,000 energy efficient cook stoves per year ○ Training of youths to enhance self-employment and cut down illegal migration. 	
<u>For clean cooking</u>	<p><u>Quantity of firewood/charcoal saved</u></p> <p>Furno nofile (metal) 1kg wood/day/household</p> <p>Pottery stove (clay) 1 kg wood/ day/household</p> <p>Furno jambarr (metal/clay) 1kg charcoal/ day/household</p> <p>Institutional Brick stove (red bricks / cement)</p>	
	GHG emission reduction	tbd
Beneficiaries (<i>incl. number</i>)		
Direct	<ul style="list-style-type: none"> • Women 50,000 • Youth 100 • Local artisans 200 • Potters 80 	
Indirect	<ul style="list-style-type: none"> • Children 40,000 • Wood vendors 100 • Charcoal vendors 100 	
Partners	<i>Name</i>	<i>Role</i>
	ABCGaye Enterprises	Production and distribution of energy efficient cook stoves countrywide.
	Greentech	Provide briquettes and training of the youth on briquettes and rocket stoves.
	West Wind Energy	Successful ICS entrepreneurs in Sierra Leone willing to support the development & functioning of a centralized production line of targeted ICS in The Gambia
	GTI	Training and production of various accepted stoves.
	ADWAC	Provide other tested stove prototypes.
	Department of community development (DCD)	Sensitization and mobilization of the local communities about stoves.

	<i>Forestry department</i>			<i>Provide advice on fuel related issues such as wood and charcoal.</i>
	<i>Women's Bureau</i>			<i>Provide assistance for the sales and distribution of stoves to the women folk.</i>
	<i>Gambia Clean Cooking Alliance</i>			<i>Assist in the implementation of the project throughout the country.</i>
	<i>Firewood / charcoal vendors Association</i>			<i>Reducing the cutting and burning of wood</i>
Technical know-how available in the Gambia	Technical knowhow in the manual production of stoves is available in the country but the semi-mechanized method production is not available yet.			
Sustainability/ commercial viability	There are numerous towns, cities and growth centers in the country where stove demand is extremely high and the importance of stoves are well known.Proceeds from sales of the stoves will be reinvested for the project's continuity Youths trained during the project will also continue to produce their stoves for sale and distribution.			
Risk factors & mitigation	The continuous availability of wood and charcoal at all times needs to be encouraged to avert the possibility of shortage of wood and charcoal. Tree planting will be encouraged. The off cuts of the cashew plantation will be quite useful. However alternative cooking fuels and ICS adapted to these cooking fuels need to be promoted (see demo project on alternative cook stoves)			
Scaling-up potential	The scaling up potential of the stove is already felt by the number of women who always asked for stoves, this is evident by the fact that daily request of the stove is made at the various points.			
Replicability	The production and distribution of stoves cannot be done by the envisage project considering the demand of stoves. In view of that, new production and distribution centers will be needed for more private sector participation in the production and value chain of stoves.			
Budget &	ABC	West Wind	GTTI	ADWAC

contribution of partners	GAYE ENT	Energy		
	[Financial Contribution in USD]	[Financial Contribution in USD]	[Financial Contribution in USD]	[Financial Contribution in USD]
	[Financial Contribution in kind [USD] \$58,0000	Training, design & operationalization of the production line	[Financial Contribution in kind [USD]	[Financial Contribution in kind [USD]
Overall demo project budget	680,000 USD			
Budget gap/needs requested from GEF6 <i>(incl. financial & non-financial)</i>	200,000 USD			
Part of the gap to be covered by the UNIDO GEF6 project if project is selected <i>(incl. financial & non-financial)</i>	[To be filled in by PSC]			

Demo Project Name	School feeding with improved cook stoves (ICS)
Project Components of UNIDO GEF6 project concerned	<ul style="list-style-type: none"> PC 3 – Cook stove under the school feeding programme
Main challenges to be solved by the demo project	<ol style="list-style-type: none"> 1. High dependency of schools on large volumes of scarce firewood for cooking 2. Health related complications mainly for women from carcinogenic pollutants from wood burning during cooking 3. Rapid rate of deforestation and forest degradation
Short description of the demo project	<p>The Gambia is already experiencing the effects of deforestation and desertification. Due to over exploitation and unsustainable management of forest resources, firewood which represents the main source of energy for cooking and heating is seriously becoming expensive and scarce resulting to increase in collection time and high market prices. With the introduction of school feeding programme amongst the lower basic schools in the rural areas high volumes of firewood are required for cooking which exposes the cooks predominantly women with children to high risk of carcinogenic pollutants from the burning wood . Thus innovative technologies are necessary to reduce this problem. This project will be implemented in three schools to be selected from three regions namely; North Bank Region (NBR), Central River Region North (CRR-N) and Upper Region North). These regions are most affected by deforestation and forest degradation and are also the poorest regions in The Gambia.</p> <p>The cook stoves will essentially reduce the amount of firewood used at schools therefore contributing to forest conservation, improved health conditions and cooking time.</p>
Target Geographic Area	<ul style="list-style-type: none"> North Bank Region Central River Region -North Upper River Region - North
Expected results	<ol style="list-style-type: none"> 1. Quantity of fuelwood used for cooking in schools reduced 2. Cases of infection due to carcinogenic pollutants from fuelwood burning reduced in the targeted schools 3. Time for preparation of school meals reduced
<u>For clean</u>	Institutional ICS

<u>cooking</u>		
	<i>Quantity of firewood/charcoal saved</i>	tbd
	<i>GHG emission reduction</i>	tbd
Beneficiaries (<i>incl. number</i>)		
<i>Direct</i>	<ul style="list-style-type: none">• 3 schools• 9 cooks (women)• 15 men• 6 Children	
<i>Indirect</i>	<ul style="list-style-type: none">• 1000 students	
Partners	<i>Name</i>	<i>Role</i>
	<i>FAO</i>	<i>FAO has the primary responsibility for supervision and provision of technical guidance during the implementation process</i>
	<i>Ministry of Basic & Secondary Education (MOBSE)</i>	<i>Ministry responsible for environmental education in basic and senior secondary schools. Will coordinate activities of the project amongst its schools.</i>
	Department of Forestry (DoF)	<i>To lead implementing activities</i>
Technical know-how available in the Gambia	There is lot of expertise in the area of construction of metallic stoves, mud stoves etc. both in the private and public sectors.	
Sustainability / commercial viability	The project will be built upon the experience and the comparative advantages of the implementing partners. It will combine the strengths and the lessons learned by these partners in baseline projects, in addition to their effective field presence. This will permit the proper management of activities after the project. With increasing scarcity of firewood and little alternative for cooking energy coupled with the high level of school management committees to the school feeding programme, sustainability will be well assured.	
Risk factors & mitigation	Risk	Mitigation
	Reluctance of schools to use the cook stoves	Continuous sensitization and awareness raising activities in the target schools and close collaboration with Parents Teachers Association

	Continuous Government support after project phase out	The proposed project is strongly supported by MoBSE. Direct linkages to existing and planned baseline project/development activities implemented by the Government. The FAO and other partners will provide a strong foundation to mitigate this risk.		
	Inadequate capacity at national, local and community level for scaling up	The project will build on existing baseline projects activities specifically those targeting capacity development at national, regional and local community levels to strengthen the replicability of the project		
Scaling-up potential	With increasing concerns over deforestation and desertification as well as its political commitment to the regional clean cooking programme, the government has already started promoting sustainable natural resources management practices/strategies amongst its population. This project has therefore the potential for scaling-up nation-wide			
Replicability	The fact that many Gambians are now trained in the construction of cook stoves through other baseline projects/programmes, in addition to the interest that MoBSE has for cook stoves at its schools, the project could be easily replicated in many areas in the country.			
Budget & contribution of partners	FAO	MoBSE	DoF	[Partner 4]
	[Financial Contribution in USD]	[Financial Contribution in USD]	[Financial Contribution in USD]	[Financial Contribution in USD]
	In-kind contribution USD 100,000	In-kind contribution in USD 50,000	In-kind contribution in USD 30,000	[In-kind contribution in USD]
Overall demo project budget	USD 230,000			
Budget gap/needs requested from GEF6 (incl. financial &	USD 50,000 (45 000 - financial and 5,000 - non-financial)			

<i>non-financial)</i>	
Part of the gap to be covered by the UNIDO GEF6 project if project is selected	[To be filled in by PSC]