# GEF-6 PROJECT IDENTIFICATION FORM (PIF)

**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: | 9495 |
| GEF Agency(ies): | UNIDO | GEF Agency Project ID: | 160041 |
| Other Executing Partner(s): | National Environment Agency, Ministry of Energy and Petroleum, Gambia Standards Bureau | Submission Date:<br>Resubmission Date:<br>Resubmission Date: | 2016-05-18<br>2016-10-06<br>2017-01-13 |
| GEF Focal Area(s): | Climate Change | Project Duration (Months) | 36 |
| Integrated Approach Pilot | IAP-Cities ☐ IAP-Commodities ☐ IAP-Food Security ☐ | Corporate Program: SGP ☐ | |
| Name of parent program: | [if applicable] | Agency Fee ($) | 169,241 |

## A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES

| **Objectives/Programs** (Focal Areas, Integrated Approach Pilot, Corporate Programs) | **Trust Fund** | **(in $)** | |
|---|---|---|---|
| | | **GEF Project Financing** | **Co-financing** |
| CCM-1 Program 1 | GEFTF | 1,781,484 | 4,687,550 |
| **Total Project Cost** | | **1,781,484** | **4,687,550** |

## B. INDICATIVE PROJECT DESCRIPTION SUMMARY

**Project Objective: Operationalize the Sustainable Energy For All Action Agenda in The Gambia by catalyzing investments in improved cooking stoves and efficient appliances .**

| **Project Components** | **Financing Type** | **Project Outcomes** | **Project Outputs** | **Trust Fund** | **(in $)** | |
|---|---|---|---|---|---|---|
| | | | | | **GEF Project Financing** | **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 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 | GEFTF | 56,000 | 150,000 |
| 2. Promoting the use of efficient appliances in line with SE4ALL investment prospectus of The Gambia | Inv | 2.1 Increased use of efficient lights and refrigeration appliances | 2.1.1 2,000 Certified efficient lamps in public buildings installed<br><br>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<br><br>2.1.3 10 Efficient heat pump chillers for small scale beverage and food processing industries installed | GEFTF | 643,981 | 1,640,000 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 3. Promoting the use of efficient cook stoves and use of briquettes in line with SE4ALL investment prospectus of The Gambia | Inv | 3.1 Increased production and use of efficient cookstoves combined with enhanced capacity for production of briquettes from agro-processing waste | 3.1.1 17,000 tons of agro-waste (especially groundnut shells) based briquettes produced annually<br><br>3.1.2 Private companies, distributors and financial institutions engaged in manufacturing, distribution and financing the dissemination of 5,000 efficient cookstoves (Furno EES) that use briquettes | GEFTF | 697,550 | 2,032,550 |
| 4. Quality assurance and enhancing capacities for market players and enablers | TA | 4.1 Increased capacity for uptake of efficient appliances and cook stoves and their compliance with standards | 4.1.1 Performance labelling scheme introduced for selected appliances and standards introduced for efficienct cookstoves and briquettes, with training provided to 10 members of the Gambia Standards Bureau to implement these standards<br><br>4.1.2 Over 40 practitioners trained on sustainable briquetting practices and manufacture and distribution of efficient cook stoves in compliance with certification standards | GEFTF | 148,000 | 350,000 |
| 5. Monitoring and Evaluation | TA | 5.1 Monitoring of results and evaluation | 5.1.1 Project effectively monitored, mid-term review and independent terminal evaluation conducted | GEFTF | 74,000 | 200,000 |
| | | | Subtotal | | 1,619,531 | 4,372,500 |
| | | | Project Management Cost (PMC) | GEFTF | 161,953 | 315,000 |
| | | | **Total Project Cost** | | 1,781,484 | 4,687,550 |

**C. INDICATIVE SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE, IF AVAILABLE**

| 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 Energy | In-kind | 850,000 |
| Recipient Government | National Environment Agency | In-kind | 800,000 |
| Recipient Government | Public Utilities Regulatory Authority (PURA) | In-kind | 792,550 |
| Private Sector | Partner companies | Equity | 1,999,450 |
| **Total Co-financing** | | | 4,687,550 |

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

| GEF Agency | Trust Fund | Country/ Regional/ Global | Focal Area | Programming of Funds | (in $) | | |
|---|---|---|---|---|---|---|---|
| | | | | | GEF Project Financing (a) | Agency Fee (b)[b)] | Total (c)=a+b |
| UNIDO | GEFTF | The Gambia | Climate Change | GEF TF | 1,781,484 | 169,241 | 1,950,725 |
| **Total GEF Resources** | | | | | 1,781,484 | 169,241 | 1,950,725 |

a) Refer to the Fee Policy for GEF Partner Agencies.

## E. PROJECT PREPARATION GRANT (PPG)

Is Project Preparation Grant requested? Yes ☒ No ☐ If no, skip item E.

### PPG AMOUNT REQUESTED BY AGENCY(IES), TRUST FUND, COUNTRY(IES) AND THE PROGRAMMING OF FUNDS

| **Project Preparation Grant amount requested:** $45,000 | | | | | PPG Agency Fee: 4,275 | | |
|---|---|---|---|---|---|---|---|
| GEF Agency | Trust Fund | Country/ Regional/Global | Focal Area | Programming of Funds | (in $) | | |
| | | | | | PPG (a) | Agency Fee (b) | Total c = a + b |
| UNIDO | GEF TF | The Gambia | Climate Change | | 45,000 | 4,275 | 49,275 |
| **Total PPG Amount** | | | | | **45,000** | **4,275** | **49,275** |

## F. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS

| 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 | *Hectares* |
| 2. Sustainable land management in production systems (agriculture, rangelands and forest landscapes) | 120 million hectares under sustainable land management | *Hectares* |
| 3. Promotion of collective management of transboundary water systems and implementation of the full range of policy, legal and institutional reforms as well as 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; | *Number of freshwater basins* |
| | 20% of globally over-exploited fisheries (by volume) moved to more sustainable levels | *Percent of fisheries, by volume* |
| 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) | *Direct 160,000 metric tons of CO2e Indirect 640,000 metric tons of CO2e* |
| 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) | *metric tons* |
| | Reduction of 1000 tons of Mercury | *metric tons* |
| | Phase-out of 303.44 tons of ODP (HCFC) | *ODP tons* |
| 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 | *Number of Countries:* |
| | Functional environmental information systems are established to support decision-making in at least 10 countries | *Number of Countries:* |

## PART II: PROJECT JUSTIFICATION

1. *Project Description*

### 1.1 The global environmental and/or adaptation problems, root causes and barriers that need to be addressed

In 2011, biomass, including fuel wood, accounted for about 60% of The Gambia's energy supply and more than 90% of household energy consumption, while petroleum products (liquefied petroleum gas for cooking; diesel and heavy fuel oil for generating electricity) accounted for 36% and electricity for about 4% of energy supply. Over 65% of the population does not have access to electricity[1]. The country depends on diverse fuel sources, of which the use of biomass (primarily for cooking) and petroleum products (and indirectly, electricity) have the strongest link to climate change.

As shown in Figure 1 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 in the country were identified as lighting, personal entertainment, refrigeration and cooling units[2]. 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 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 arise 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 generally recognized need to motivate the general public to increasingly use energy efficient products in these categories. This could be initially catalyzed by concerted government effort 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.

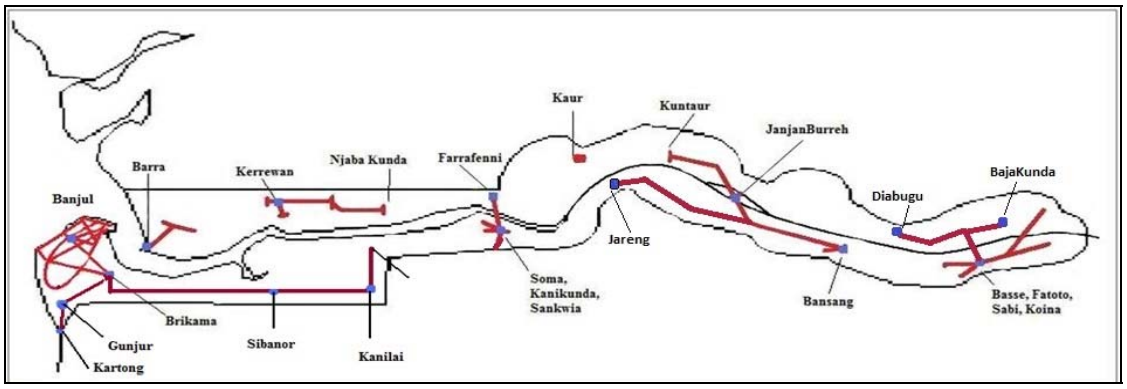

Figure 1: Schematic of the NAWEC's network

Analysis of households energy demand and supply growths in The Gambia, just like in most of the countries in the ECOWAS region, show that demand of firewood and charcoal is outstripping supply, thereby 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. On the biomass supply side, there has been no commensurate increase in quality of supply options at national level although some forestation projects have recorded success at local levels. At

[1] http://www.irena.org/DocumentDownloads/Publications/RRA_Gambia.pdf
[2] http://www.se4all.org/sites/default/files/Gambia_RAGA_EN_Released.pdf

institutional level however, there is significant sense of the need for addressing these issues as shown by the following:

- 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 adoption of a Renewable Energy Act in 2013.[3] The RE Law was enacted through the adoption of the RE Act of 2013;
- In 2014, The Government of The Gambia was the first country in Africa to adopt its SE4All Action Agenda together with an Investment Prospectus[4] for achieving SE4All goals by 2030;
- Within the West Africa Clean Cooking Alliance (WACCA)[5] initiated by the ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE), The Gambia is finalizing its National Cooking Energy Action Plan, where issues related to the need for addressing biomass supply, standards for improved cooking stoves and awareness raising on improved cooking stoves are highlighted.

Central challenges to the achievement of change as envisaged in these documents include: (1) the disjointed approaches to the development of policies, programmes as well as projects in 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 by 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 urgent operationalization of the following priority projects identified in the SE4All Investment Prospectus: (1) Promote market based use 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.

Various attempts were made in the recent past to raise awareness on the importance of switching to more efficient cook stoves and household appliances, but what has continued to lack is a nationally driven and anchored process to promote market-based deployment of these technologies. Overall, there have not been concerted efforts 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 forests 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 objectives in such areas. These disconnections in approaches apply to other sectors like agriculture, health, education etc.

To date, The Gambia has demonstrated its willingness to address energy access related issues at 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, there is a need to create a platform 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. The market, once properly set-up and functional with appropriate business models involving all stakeholders, including national

[3] Renewable Energy Act, 2013, ISSN 0796 – 0298

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

[5] http://www.ecreee.org/page/west-african-clean-cooking-alliance-wacca

government, financial institutions, and consumers, will ensure sustainability and replication of the interventions under this project. The selected interventions under this project will address a number of sector specific, as well as cross-sectoral, barriers that include:

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

Like most developing countries, energy access is still very central to most of the developmental challenges that the country is facing. To begin with, energy sector planning has over the years only focused on commercial energy forms with not much attention paid to biomass for cooking purposes, yet the majority of the populations both in urban and rural areas still cooks with traditional biomass mainly woodfuel and charcoal. 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 is these sectors. Accordingly, energy is normally attended to as an after-thought, thereby compromising chances of success and effectiveness of initiatives in these sectors. 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, thereby compromising health delivery since medication and vaccinations cannot be stored under refrigerated conditions. Furthermore, emergency services at night cannot be provided since there is not basic lighting. However, energy access through the use of renewable energy sources could have been easily integrated into the programme to build clinics at the very inception of the project without significant budget implication. 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 kick start this process, there is a need to establish a platform, where key stakeholders of the energy sector can discuss nexus issues between energy as well as other sectors, allowing to promote 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 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 and number of years in usage before importation. Consequently, a lot of inefficient and second hand appliances are imported and used across all sectors. This contributes to increased energy demand on the grid, higher costs of production and less energy services. In 2014, The Gambia adopted a Consumer Protection Act that is silent on requirements in terms of energy intensity of appliances. As such, the authorities do now 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 applies: (1) The net weight must be shown in labelled canned goods and foodstuffs; (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.[6] 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 and the general populace getting very little service while

[6] http://www.sidf.gov.sa/En/MediaCenter/ResearchandStudies/ExportInformationExportStudyKnowledgeBase/2004-ES-Labelling%20Marking%20and%20Packaging%20Regulations-Part1.pdf

consuming high amounts of energy. The project will therefore introduce a performance labelling scheme for appliances commonly used across the country and standards for cook stoves, as well as build institutional capacity to implement these standards nation-wide.

**d) 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 the dissemination of 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. As such, 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 as well as financing tools and mechanisms that would enable them to expand their services and reach in the sector. Similarly, there has not been a sustained awareness raising among the population in order to learn about the benefits of adopting efficient appliances and using improved cook stoves.

## 1.2. The baseline scenario and associated baseline projects

### 1.2.1 Baseline scenario

The Gambian Government is 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 Investment Prospectus. What however lacks is the translation of these commitments into operational and tangible programmes and projects. In particular, the role of the private sector in energy services supply, hence the implementation of priority investment projects in the SE4All investment prospectus has remained minimal. As such, 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 that bring together market enablers and market players in promoting market-based dissemination of renewable energy as well as energy efficient technologies.

In the recent past, the Public Utilities Regulatory Authority (PURA)[7] piloted an initiative under which compact fluorescent lamps (CFLs) were distributed to a number of households in Kanifing Estate and Banjul. Feedback from this pilot shows that the beneficiary households appreciated the benefits and would be interested to pay for improved lighting services. However, a number of them would not be able to afford these lamps as they are more costly than incandescent lamps available on the market. 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.

Overall, without deliberate intervention to encourage a holistic approach where the nexus between energy and environmental issues has been recognized, projects, policies and programmes in these areas will continue to have fragmented results, thereby 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 on 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 Investment Prospectus[8]. 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 investment prospectus highlights priority investment projects that the country needs to support and

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

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

high impact opportunities to tap in. The Gambia investment prospectus 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, 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.

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 noted above interface with NAWEC activities and other environmental issues:

- The promotion of improved cook stoves will effectively reduce the demand for firewood and charcoal. This would have a direct impact on the rate of cutting down of trees. Similarly, the use of improved cook stoves that have less health hazards would effectively reduce the shift towards the use of grid electricity for cooking purposes. This would imply a sudden increase in power demand that NAWEC would not be able to handle and thus imply the need for emergency power generation that would be fossil fuel based.
- The replacement of inefficient lights and appliances with efficient devices reduces the power demand on the NAWEC grid and ultimately eliminates the need for emergency power generation capacity that is fossil fuel-based.
- This project will contribute to sustain achievements of the UNIDO/GEF 4 project, currently under implementation, including the adoption of a Renewable Act. The Act seeks to support the establishment of a "legal, economic and institutional basis to promote Renewable Energy" and in particular, link the achievement of this to priority projects of the SE4All Agenda.

1.2.2 Associated baseline projects

In The Gambia, there are currently no projects where energy nexus issues are being addressed. No platform is in place to enable different stakeholders to discuss energy nexus issues in order to ensure that policies, programmes and projects in other sectors address these issues in an integrated manner.

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

    - The efficient lighting initiative proposed by the Ministry of Energy in the SE4All Investment Prospectus, which has the main objective to save electricity from lighting and to get more households connected to the grid through massive distribution of CFLs. The Ministry 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 as CN16 in the Investment Prospectus 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.

- The project "Establishing biomass briquetting and fuel efficient domestic stoves enterprises for enhanced access to energy for all" (CN2) was listed as second ranked among the top priority of the SE4All Investment Prospectus, 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 (PRSP), seeks to supply the market with 70,000 stoves and 17,000 tons of briquettes. Both Greentech and PRSP 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.

b. Following the West Africa Clean Cooking Alliance (WACCA), the regional workshop which took place in 2014 in Banjul, The Gambia, initiated the development of its National Action Plan for Clean Cooking Energy[9]. In December 2015, with the support of the ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE), the National Action Plan was validated with four (4) main objectives, which are to:

- Improve the efficiency and sustainability of the traditional 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, biogas, as well as liquid fuels, such as ethanol, produced from agriculture or forestry waste;
- Promote LPG fuel and devices. LPG fuel is clean and highly efficient;
- Strengthen local economies through increased production of biomass fuels and stoves by scaling-up proven business models.

These projects have the advantage of being initiated and promoted by national stakeholders who have risen to meet the need for the country to shift towards more sustainable energy access and conservation approaches. Therefore, the investment components are demand-driven proposals. The overall investment prospectus and WACCA Action Plan are still looking for funding. This GEF project should contribute to operationalize the priorities, taking into account some GEF related requirements in terms of innovation through inclusion and deployment of new technologies, particularly efficient refrigeration in the productive sector.

**1.3 The proposed alternative scenario 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 lamps, refrigeration, air conditioning (RACs) appliances and cook stoves, that will, together, result in transformational change with regards to the country's energy access situation and end-users' behavior. The project features five (5) components, including its monitoring and evaluation.

All the components of the project contribute to Program 1 of the focal area CC1- Promote Innovation, Technology Transfer and Supportive Policies and Strategies - as it promotes a nexus approach between energy and other environmental issues. This will ensure the mainstreaming of sustainable energy issues in the broader policies, programmes and projects within the country. Component 2 and 3 of the project contribute to Program 1 by demonstrating the cost effectiveness of low carbon devices and technologies, such as efficient lighting and heat pump chillers in an integrated manner. Component 4 of the project seeks to 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 the improved cooking devices and efficient appliances beyond the life of this project.

[9] http://www.ecreee.org/sites/default/files/event-att/gambia_clean_cooking_energy_action_plan_framework_final.pdf

Component 5 of the project relates to the effective monitoring, evaluation and implementation of the project activities.

**Component 1: National platform to foster nexus issues**

The national platform is envisaged for promotion of discussions and coordination mechanisms that should address the nexus between energy and other environmental issues. The platform will make proposals on how existing policies, programmes and projects could be improved, allowing to promote an integrated 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 7 Sustainable Development Goals (SDG-7). The project management office established under the Ministry of Energy and Petroleum will initially act as the secretariat of the proposed platform. The platform will provide the opportunity to meet at least twice a year, deliberate on various nexus issues and make proposals on how to address them. At PPG stage further analysis will be conducted on the operations of the platform, however, it is envisaged that the platform will be mainstreamed into the functions of the Ministry of Energy and Petroleum upon completion of this project.

**Component 2: Promoting the use of efficient appliances in line with SE4ALL investment prospectus of The Gambia**

This component builds on the feasibility study conducted during the development of the SE4ALL Investment Prospectus of The Gambia. At PPG stage, the feasibility study will be re-verified and updated. The project will promote the implementation of market mechanisms for financing the dissemination of efficient appliances. To begin with, the project will support the distribution of 2,000 compact fluorescent lamps (CFL) in selected public buildings that are used by the greater majority of The Gambians. A private company will be contracted to supply, distribute and install the CFLs in the selected public buildings. This will create awareness and increase confidence in CFLs as a basis for establishing a market for CFLs. To catalyze the adoption of a further 60,000 CFLs in other buildings on a commercial basis, the project will contract private companies, distributors and traders to sell these CFLs at subsidized prices, leveraging the support provided by the project. In order to ease adoption of new environmental-friendly lamps and heat pump chillers, the project will contribute to create conditions for a sustainable market with (i) government having a clear and simple regulation scheme, (ii) finance institutions (commercial banks and microfinance institutions) developing appropriate financial products to support end-users investment on those lamps and appliances (iii) and end-users having necessary market information to make sound decisions, preferably with a system including energy ratings, standards and labels as it was done in Ghana. Pilot investments planned for demonstration of efficient lamps and refrigeration appliances are: (1) Retrofit 13 W compact fluorescent lamps to replace 75 W incandescent bulbs in public buildings such as hospitals and schools and then in private buildings through a business model; and (2) installation of efficient heat pumps chillers as 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 efficient cooling/heating systems 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. Table 1 details investments planned within component 2 of the project.

Table 1: Efficient Lighting and RAC investments

| | **Certified efficient lights (CEL)** | **Efficient Heat pump system** |
|---|---|---|
| Number of units/systems | 62,000 | 10 |
| CAPEX (USD) | 1,171,338.5 | 1,171,338.5 |
| Energy Efficiency ratio (EER) | | 10.1 |
| Coefficient of performance[10] | | 3.2 |
| Average daily use (hours) | 9.5 | 10 |
| Product lifetime (years) | 2.3 | 15 |
| Energy savings throughout lifetime (MWh) | 29,405 | 900 |
| Direct emissions reduction throughout product/system lifetime (tCO2e) | 20,053.9 | 616.1 |
| Replication factor | 4 | 10 |
| Indirect emissions reduction | 80,215.6 | 6,161 |
| Simple payback period[11] | 0.1 | |

The calculation of the efficient lighting parameters is based on results of a similar project conducted by the Ghana Energy Commission in Ghana during the period 2007-2009.

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. The project, in its capacity building component intends to develop a toolbox for assisting consumers to make decisions on efficient lighting, refrigeration and cooling appliances. Main outcomes expected from component 2 are (i) Market-based mechanisms for uptake of efficient lighting and refrigeration, and (ii) Grid load alleviation through the operation of 62,000 efficient lamps and heat pump chillers. At PPG stage, the project will revalidate feasibility studies available in the SE4All Investment Prospectus to ensure that interventions will be based on up-to-date information.

**Component 3: Promoting the use of efficient cook stoves and use of briquettes in line with SE4ALL investment prospectus of The Gambia**

This component builds on the feasibility study conducted during the development of the SE4ALL Investment Prospectus of The Gambia that seeks to replace the use of firewood. At PPG stage, the feasibility study conducted for the SE4ALL Investment Prospectus will be re-verified and updated. This component is in line with the West Africa Clean Cook stoves Alliance (WACCA) programme and was identified as priority in the SE4All Action Agenda.

Statistically, each person in The Gambia uses about 1 kg of wood (or its charcoal equivalent) every day for cooking. An average family of 7 members uses 2.5 ton per year at a cost of USD 0.09 (D 4) per kilogram of wood as of June 2014, resulting in an annual expense of about USD 227 (Dalasi 10,080). Results of a pilot funded by the World Bank within the initiative Promotion of Improved Biomass Vestos in The Gambia (BEIA) show the improved stove Furno EES that is proposed in the Investment Prospectus can achieve a fuel saving of approximately 2/3 of wood consumption for cooking, therefore the average family can save about 1.68 tons of fire wood every year (WACCA Paper). The following assumptions are considered in the estimation of environmental (GHG emissions reduction) and economic (expenses saving) benefits of the component.

[10] Measure of heating efficiency, available only for heat pumps
[11] Based on 10% discount rate

- The supply of 10,000 Furno ES every year during the first three years of the project implementation and 5,000 Furno EES at the fourth year will save 58,800 tons of woodfuel over 15 years of operation. Concerning the briquettes, the assumption is to have 4,250 tons produced per year, which will displace an equivalent quantity of wood, meaning 17,000 tons of wood saved at the end of the project implementation period.
- 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*44/12) 1.8333 kg CO2e, therefore a saving of 58,800 tons of wood from cook stoves improved efficiency and 17,000 tons of wood from fuel switch will be equivalent to a reduction in emissions of 138,964 tons CO2e.

Table 2: Carbon benefits of efficient cooking component

| Years | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cookstoves Furno ES available (units) | 10,000 | 20,000 | 30,000 | 35,000 | 35,000 | 35,000 | 35,000 | 35,000 | 35,000 | 35,000 | 35,000 | 35,000 | 35,000 | 35,000 | 35,000 |
| Briquettes available (tons) | 4,250 | 8,500 | 12,750 | 17,000 | 17,000 | 17,000 | 17,000 | 17,000 | 17,000 | 17,000 | 17,000 | 17,000 | 17,000 | 17,000 | 17,000 |
| Woodfuel saved per year (tons) | 16,800 | 33,600 | 50,400 | 58,800 | 58,800 | 58,800 | 58,800 | 58,800 | 58,800 | 58,800 | 58,800 | 58,800 | 58,800 | 58,800 | 58,800 |
| GHG emissions reduced from Furno ES (tCO2e) | 30,799 | 61,599 | 92,398 | 107,798 | 107,798 | 107,798 | 107,798 | 107,798 | 107,798 | 107,798 | 107,798 | 107,798 | 107,798 | 107,798 | 107,798 |
| GHG emissions reduced from briquettes (tCO2e) | 7,792 | 15,583 | 23,375 | 31,166 | 31,166 | 31,166 | 31,166 | 31,166 | 31,166 | 31,166 | 31,166 | 31,166 | 31,166 | 31,166 | 31,166 |
| **Total carbon benefits** | **38,591** | **77,182** | **115,773** | **138,964** | **138,964** | **138,964** | **138,964** | **138,964** | **138,964** | **138,964** | **138,964** | **138,964** | **138,964** | **138,964** | **138,964** |

- According to Greentech and PRSP, which proposed the project in the Investment Prospectus, savings due to cleaner fuel can be translated in 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 (D 480) to 13.5 (D 600) per day at USD 0.09 (D 4) for one kg of briquettes. The saving due to better efficiency of stoves translated in monetary value is about USD 151 (D 6,720) per year and per family. This makes the manufacture of stoves and briquetting activity an attractive business benefitting the global environment, as well the communities.

Biomass considered for briquetting during the first phase of the project execution is free of cost and should be from renewable resources (sawdust, agriculture and garden residues). During the PPG phase the sustainable availability and supply chain sustainability of these resources and possible alternatives will be assessed in detail. Considering above statistics, the project envisages the following outcomes (i) market-based environment for uptake of efficient cook stoves combined with cleaner fuel and (ii) recognition of 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. More specifically the project will support the incorporation of briquetting practitioners into formal corporation with the set-up of ten (10) small scale enterprises (SMEs). These SMEs should, within the project timeframe, produce over 17,000 tons of briquettes from agro-waste as per the established standards to be adopted under Component 1 and manufacture of five thousand (5,000) efficient cook stoves (Furno EES) that use briquettes, through a viable business model to be tested in pilot communities. More specifically, the project will partner with charcoal producers in The Gambia, which is one of the key drivers of deforestation. The project will provide voluntary training to charcoal producers in order to ensure more efficient techniques that increase the yield from fire wood. Furthermore, the project will engage with networks of existing distributors and traders to support the effective and efficient distribution of efficient cook stoves.

Even though more banks have been established in Gambia in the past years, the country faces limited credit opportunities at attractive terms. Currently, many industries have been unable to obtain much needed capital due to high interest rates and excessive collateral requirements. Therefore this output will work with financial institutions at various levels in developing innovative financial mechanisms and incentive schemes to enhance the financial opportunities among industrial stakeholders, especially SMEs. Besides, banks and financial institutions personnel will receive training to improve their understanding of EE and RE projects. Experience and lessons from other countries in relation to the involvement of financing institutions in this sectors will be considered and adapted to the needs of this project.

**Component 4: Quality assurance and enhancing capacities for market players and enablers**

To increase confidence in performance of selected electrical appliances, the project will adapt existing appliance performance labeling schemes from countries in the ECOWAS region and will introduce it to The Gambian market, focusing on appliances that are commonly used. In addition, the project will develop and introduce regionally accepted standards for cook stoves and briquettes, to be certified by The Gambia Standards Bureau (GSB). This project will develop the capacity of this institution in developing, implementing and verifying the quality standards of cook stoves within the country. As part of the capacity building initiatives in this component, a training workshop will be conducted for 10 members of the GSB to develop their capacity to fulfil this role within the larger mandate of this institution, especially on testing and issuing of certification. This will ensure that when the cook stoves are introduced to The Gambian market, the public will have a greater degree of confidence in their performance. At PPG stage, further stakeholder analysis will be conducted to establish other institutions that will support this component. The successful introduction of performance labeling scheme for appliances hinges on market players and market enablers, acquiring critical mass of awareness on the importance and meaning of the labeling performance. As such, the project will organize five (5) awareness raising workshops for market players and market enablers. In particular, targeted awareness raising activities that include information seminars, dissemination of information through electronic and print media, will be considered for dissemination of information on labels for domestic appliances and efficient cooking standards. These trainings will target a total of two hundred (200) policy makers and private operators who should support an adoption of these labels/standards and larger dissemination to end-users. For cooking devices, training will mainly focus on practical activities in manufacturing and commercializing briquettes from biomass residues and Furno ES. The contribution of experienced trainers from the region will be mobilized through the West Africa Clean Cooking Alliance (WACCA). A total of forty (40) market practitioners selected through proportional representation from the different provinces in The Gambia, are targeted for participation to the trainings. These practitioners will be accompanied during the process of formalizing the production and commercialization of briquettes and efficient cook stoves through the creation of small size enterprises (SMEs). As primarily concerned by cooking energy collection and use, the project will ensure within its capacity building component that women, particularly those who are located in communities adjacent to woodlots, are involved in the manufacture and commercialization of improved cook stoves and briquettes in order to integrate them in the sustainable woodfuel supply and natural resource management. The establishment of the national platform combined to building capacity of markets enablers and players should support the overall market transition towards efficiency.

**Component 5: Monitoring and 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 periodic basis, built-up from the project's different components. The 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. The project through its three above components will be monitored considering the following GEF 6 indicators:

- Components 1 and 4: Indicator 7: Contribution on meeting countries' convention reporting requirements;
- Component 2: Indicator 6: Degree of strength of financial and market mechanisms for low GHG development;
- Components 3 and 4: Indicator 6: Degree of strength of financial and market mechanisms for low GHG development;

The monitoring part of components 1 and 4 will also integrate gender disaggregated indicators and those indicators will be systematically recorded, reported and integrated into the management of the project. Specific indicators related to those above listed will be defined for each component of the project during its preparation phase. Beyond this tailor-made M&E and Implementing Agency (IA) approach, the proposed project will also come under UNIDO's standard M&E approach for the GEF funded projects, consisting of mid-term review and terminal evaluation, as well as definition of periodic reporting based on the GEF/UNIDO templates (MTR/PIR/final PIR). The main outcome of the monitoring and evaluation process is to provide information on whether the project is effectively managed. This project should contribute to The Gambia's attainment of the SDG-7 and SDG-9.

**1.4 Incremental cost reasoning and expected contributions from the baseline with GEFTF and co-financing**

GEF financing will be used for incremental costs in this project by supporting catalytic activities under the four components and project management. In particular, the GEF financing will support the set-up of a multi-sector institutional platform, in order to find a holistic approach and 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. In component 2 and 3, the project will leverage the private sector to invest and develop business models to promote investment in efficient appliances as well as improved cook stoves. In component 4, GEF support will contribute also to building capacities for the organization and oversight of quality standards in the market and for private sector to enter in the market and make uptake of efficient cook stoves, lamps, and refrigeration appliances. Experience in countries within the ECOWAS region, such as Ghana has proven that projects for improving efficiency in energy performance of appliances have potential to leverage private sector investment opportunities and ensure market sustainability beyond the project implementation period. The commitment of the national stakeholders, including the private sector, at the design stage of pilot projects is a promise of sustainability beyond the GEF project implementation period. These interventions will catalyze market-based adoption of these technologies so as to achieve transformational impact on the energy sector in The Gambia and significantly contribute to GHG mitigation.

**1.5 Global environmental and social benefits**

The project has evidenced global environmental benefits. The different components acknowledge the broader energy needs of the country as a whole that need to be addressed in order to turn the country onto a low carbon growth path. A holistic approach on addressing these concerns will increase both efficiency and effectiveness of policies and strategies being adopted. The project also recognizes women's role in management 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 overall value chains. This would ensure that both men and women equally benefit and contribute to the creation of environmental and social benefits.

The efficient lighting, refrigeration and air conditioning (RACs) component will displace obsolete energy-intensive lights and appliances used by households and other productive sectors, which are primary consumers of energy from the grid. The expected reduction on energy consumption by households will alleviate the grid peak load and will

reduce emissions from appliances, including emissions of gases. The efficient cooking component of the project has direct impact on land conservation and carbon storage.

Other social benefits of the project components 2 and 3 include the decrease of end-users energy bill which is translated by the availability of additional revenue resources. Other benefits of the overall project implementation are: (i) articulation of energy related issues with other environmental issues, (ii) safer, cleaner and affordable energy access, and (iii) women empowerment. The articulation of energy policies on land resources management strategies is a timely response to the threat of deforestation due partly to climate change and unsustainable woodfuel supply. This project provides carbon benefits, as well as social and environmental benefits that forests can provide as an ecosystem.

The project activities on Climate Change focal area will directly reduce 159,634 tCO2eq through the switch to efficient lighting and refrigeration appliances as well as adoption of improved cooking devices and cleaner fuel. Given the catalytic nature of the project, it is envisaged that further integration of efficient appliances and use of efficient cooking devices will occur, especially as the nexus approach promoted under component 1 begins to influence the decision-making process. Businesses systematically integrate these measures thereby justifying a replication factor of 2-4, which would result in further cumulative emissions reduction of 638,536 tCO2eq. More detailed calculations will be conducted during the PPG phase.

**1.6 Innovation, sustainability and potential for replication and scaling up**

The main innovation under this project is the systemic approach at the institutional level to address energy access concerns, through recognition of the linkages with other sectors in addressing the global environmental concern i.e. nexus between energy and policies, programmes and projects in other sectors. The nexus approach ensures a holistic approach between energy policies, programmes and projects as well as other development issues to minimize negative feedbacks. Another innovation of the project is the set-up of a sustainable market involving Government, private sector, and end-users to ensure sustainability of pilots being implemented. Experience on implementing similar projects in contexts similar to The Gambia, for example in Ghana, has shown that efficient cooking and efficient lighting as well as refrigeration projects are adequately attractive for private sector and end-users to ensure sustainability and up-scaling of the project. To further strengthen the sustainability of the project interventions, the project will collaborate with the private sector under component 2 and 3 to establish business models for promoting investments, thereby ensuring a continued business interest to the use of these appliances well after the end of the project. Furthermore, the project will strengthen the capacity of Gambia Standards Bureau to be able to operate labeling scheme, including testing and certification. This will provide the needed institutionalized support for the projects and also for other equipment beyond the life of this project. By training professionals and also supporting the market for cook stoves as well as briquettes, the private enterprises will invest in continuing to develop the market for cook stoves and will promote their adoption as part of their business and positive revenue activities. The project will help the private sector to establish a financial mechanism that will support the dissemination of the stoves after the end of the project.

The main constraints to sustainability and up-scaling of bottom-up energy solutions are initial funding, institutionalized support and information access. These are areas where the GEF intervention will contribute to leverage by ensuring players' commitment to better efficiency in order to tap in opportunities provided by the market when fully operational. This project builds on the success and momentum of The Gambia's Community Forestry Policy, instituted with support from FAO, which won a Silver award during the 2011 Future Policy Awards as one of the world's most inspiring and innovative forest policies, focusing on improved cook stoves as an integral part of this. Findings from the efficient cooking project component will contribute to build up a holistic approach for cooking energy access strategies including direct linkages with programmes under natural resource management, as well as climate change mitigation, enabling the National platform convened through this project to make better

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.

*2. Stakeholders.* Will project design include the participation of relevant stakeholders from civil society organizations (yes ☒ /no☐) and indigenous peoples (yes ☐ /no☒)? If yes, identify key stakeholders and briefly describe how they will be engaged in project preparation.

The project features direct participation of local communities in managing local resources in order to ensure a more sustainable energy supply. In areas where pilots will be located, the project will actively engage with community-based organizations and will integrate their concerns as well as expectations into the project processes from the design, through implementation to evaluation. The pilots 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.

- National government departments such as the Ministry of Energy, the Ministry of Forestry and the Environment will play a central role in the execution of this project. The National Environment Agency as GEF Focal point will chair the project steering committee. The Ministry of Energy will make decisions on the project design and will house the project management office. The Ministry of Energy will also ensure the linkages and cross-fertilization of the project activities with other ongoing activities, in particular the GEF 4 and 5 projects.
- Non-governmental organizations such as Mbolo association, the Renewable Energy Association of Gambia (REAGAM), and The Gambia Chamber of Commerce and Industry (GCCI) will also be involved in the project design and execution, building from experience of partnership in implementing GEF 4 and 5 projects.

The project will also benefit youth who can contribute to awareness raising activities and be actively involved in the manufacture of stoves. Other partner stakeholders include local and international CSO associations and/or agencies promoting gender equality and women's empowerment, in particular Mbolo association and other associations intervening in cooking energy supply and entrepreneurship, which would be involved in project design and implementation. Mbolo Association, in particular, has been involved in various renewable energy and gender training initiatives under the GEF 4 and GEF 5 projects. In addition, the association has a database of women who have been trained in installing solar systems in The Gambia under the GEF 4 project. These groups of women have used their newly acquired skills to support the installation of at least 10 more solar systems in The Gambia

*3. Gender Equality and Women's Empowerment.* Are issues on gender equality and women's empowerment taken into account? (yes ☒ /no☐). If yes, briefly describe how it will be mainstreamed into project preparation (e.g. gender analysis), taking into account the differences, needs, roles and priorities of women and men.

UNIDO recognizes that gender equality, the empowerment of women (GEEW) as well as the access to sustainable energy does have a significant positive impact on sustained economic growth and inclusive industrial development. They are key drivers of poverty alleviation and social integration ('UNIDO Policy on Gender Equality and the Empowerment of Women', 2015). 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 activities, the degree of relevance of gender dimensions may vary.

The project integrates a strong gender component which 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 management of local energy resources. Women are primarily concerned with the collection and use of fuelwood. Thus, they are also more impacted by the scarcity of wood resources due to reduced forests. 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, participate in and benefit from the project. In practical terms:

- The project will ensure throughout the whole process - from needs assessment to update of policies - that 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 market mechanisms feature business models that 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. This can include sex-disaggregated data collection and performing gender analysis as part of ESMPs. For instance, gender-sensitive data will be collected throughout the project implementation, allowing to ensure close monitoring of gender-related indicators. This will allow to adjust the intervention whenever needed and improve the indicators during the project implementation.
- 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 its energy and environment management projects available at the below link, the project will start by screening gender related status in The Gambia during the PPG phase. The guidelines are available at:
https://www.unido.org/fileadmin/user_media_upgrade/What_we_do/Topics/Women_and_Youth/Gender_Environmental_Management_Projects.pdf.

*4 Risks.*

| Risk | Rating | Mitigation strategy |
|---|---|---|
| **Institutional risk** Policies/strategies cannot be articulated at institutional level | Medium | The project will tap into opportunities provided by the unique nexus that exists between energy access, land management and efficient cooking, allowing to gather all actors within the platform. The project will also make sure concerns and proposals from all actors are properly addressed and whenever possible integrated in the policy/strategy document. |
| **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 like less rainfall | Low | The design of the project will include climate risk analysis and will integrate mitigation strategies. During the project preparation phase, the availability of those resources and possible alternatives for briquetting will be assessed. |
| **Environmental and social risks** Negative impact of project activities on local communities e.g. revenues of fuelwood sellers decrease | Low | The interventions under this project will comply with the requisite UNIDO ESMP. All impacts will be assessed and corrective measures taken whenever necessary. In particular, 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 ensure that both benefit equally from the project and are not disproportionately impacted. |
| **Technology risks** Improved cook stoves, efficient lights and refrigerators are not enough mature technologies for the market | Low | 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 are already established and successfully demonstrated in countries in the region. Furthermore, the project will work with technologies that the private sector and local communities have confidence in. |
| **Economic risk** The purchase of efficient appliances is on the basis of the fact that they save energy. If the price of oil and consequently the cost of power in The Gambia decreases, people will not have the motivation to change their appliances | Medium | The market study to be carried out during the project preparation phase will provide the most reliable forecasts for the oil market and will evaluate the possible impact of energy cost change on consumers. |
| **Financial risk** Business models developed are not appropriate to the market needs | Low | The project will ensure at the preparation phase, that all market mechanisms to be negotiated, including business models, are built upon needs of the local population and address their main concerns. |
| **Gender Risk 1:** There could be a risk of 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 these risks the project will pursue thorough and gender responsive communication showing the benefits of gender equality for both women and men. The involvement of stakeholders will be ensured at all levels, with special regard to involving both women and men, as well as CSOs and NGOs promoting GEEW and gender experts. This shall promote gender equality, create a culture of mutual acceptance and understanding as well as maximize the potential contribution of the project to improving gender equality in the energy field. |

| Risk | Rating | Mitigation strategy |
|---|---|---|
| **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, e.g. by providing 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. |

*5. Coordination.*

The current project undertaken by UNIDO, builds on the experiences, lessons and achievements of the GEF 4 and GEF 5 projects that are being implemented by UNIDO in The Gambia. The GEF 4 project has significantly contributed to build up the institutional framework by playing a catalytic role which then boosted national actions on adoption of national policy, Action Agenda under SE4All and Strategy paper within WACCA. The GEF 5 project will test the effectiveness of the institutional framework with sector specific activities focusing on small to medium scale renewable energy technologies for productive uses. This project will build on the network of stakeholders involved in the GEF 4 and GEF 5 projects to develop a critical mass of participants to a nexus platform and the investment in efficient appliances and devices. As already realized in GEF 4 and GEF 5, industries that have adopted renewable energy technologies, are receptive to new and innovative technologies and can play a catalytic and influential role in convincing other stakeholders to invest in new projects. Furthermore, the project management costs will be shared with ongoing projects.

*6. Consistency with National Priorities*. Is the project consistent with the National strategies and plans or reports and assessements under relevant conventions? (yes ☒ /no☐). If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

The project fully complies with priorities outlined in national policies, SE4All Action Agenda, and WACCA Strategic paper. Components 2 and 3 of the project have been identified by The Gambia Government as priority projects to be implemented within the SE4All Action Agenda of the country. 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 of The Gambia's commitment to promote renewable energy and sustainable development, 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)[12], which identifies the supply of adequate, affordable, reliable, environmentally friendly and sustainable energy services, as a key pillar to ending poverty in The Gambia, simultaneously 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

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

National Energy Efficiency Action Plan (NEEAP) of The Gambia developed several scenarios for plausible contributions of energy efficiency in the electricity and cooking sectors. Finally, the National Appropriate Mitigation Action plan developed an Integrated Management initiative for solid waste through conditional methane capture, and waste recycling and composting which is expected to reduce GHG emissions significantly[13].

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)[14] on September 2015 and signed the Paris Agreement on April, 2016. In order to achieve 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 raising awareness in the residential sector. As for Component 3, it will directly support the extended renewable energy and energy efficiency as well as the efficient cook-stoves mitigation activities by promoting energy saving appliances to reduce firewood and charcoal consumption and this is one of the priority conditional emissions reduction activities. Components 4 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.

*7. Knowledge Management.*

Findings from this project will primarily serve to update and articulate existing policies, programmes and projects. It is therefore important that a data collection scheme providing information on indicators is set up at the project coordination unit. That information scheme can be the model of the Energy Information Systems that exists in neighbor countries, but could also go further by introducing the energy nexus issues. These systems will provide information on the local energy situation and will document linkages identified between energy and other environmental issues. The project intends also within component 3 to create a toolbox for assisting consumers on taking decisions based on accurate data, on costs and quality of efficient appliances and devices. In particular the project will establish linkages between the Global Cook stoves Alliance and other alliances like the West African Cooking Alliance (WACCA), to ensure that some of the globally accepted knowledge as well as communication products and experiences will be applied to this project. 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.

[13] NAMA for The Gambia at: http://unfccc.int/files/focus/application/pdf/nama_foc_prop_gambia.pdf

[14] The INDC of the Gambia at: http://www4.unfccc.int/submissions/indc/Submission%20Pages/submissions.aspx

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

### A. RECORD OF ENDORSEMENT[15] OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):

(Please attach the Operational Focal Point endorsement letter(s) with this template. For SGP, use this SGP OFP endorsement letter).

| NAME | POSITION | MINISTRY | DATE *(MM/dd/yyyy)* |
|---|---|---|---|
| Ms. Ndey Sireng Bakurin | Executive Director | National Environment Agency – GEF Focal Point | **17 FEBRUARY 2016** |

### B. GEF AGENCY(IES) CERTIFICATION

**This request has been prepared in accordance with GEF policies[16] and procedures and meets the GEF criteria for project identification and preparation under GEF-6.**

| Agency Coordinator, Agency name | Signature | Date *(MM/dd/yyyy)* | Project Contact Person | Telephone | Email |
|---|---|---|---|---|---|
| Philippe R. Scholtès, Managing Director, Programme Development and Technical Cooperation (PTC), UNIDO GEF Focal Point |  | 2017-01-13 | Alois Posekufa Mhlanga, Industrial Development Officer, Department of Energy, UNIDO | (43-1) 26026-5169 | a.mhlanga@unido.org  |

[15] For regional and/or global projects in which participating countries are identified, OFP endorsement letters from these countries are required even though there may not be a STAR allocation associated with the project.

[16] GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, SCCF and CBIT