GEF-6 PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: Medium-sized Project
TYPE OF TRUST FUND:GEF Trust Fund

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PART I: PROJECT INFORMATION

Project Title:	Capacity building for PCBs and U-POPs in The Gambia		
Country(ies):	The Gambia	GEF Project ID:[1]	9570
GEF Agency(ies):	UNDP	GEF Agency Project ID:	5908
Other Executing Partner(s):	National Environment Agency (NEA); UNITAR	Submission Date:	2016-07-22
GEF Focal Area(s):	Chemicals and Wastes	Project Duration (Months)	72
Integrated Approach Pilot	IAP-Cities ☐ IAP-Commodities ☐ IAP-Food Security ☐	Corporate Program: SGP ☐	
Name of parent program:	[if applicable]	Agency Fee ($)	194,560

A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES[2]

Objectives/Programs (Focal Areas, Integrated Approach Pilot, Corporate Programs)	**Trust Fund**	**(in $)**	
		GEF Project Financing	**Co-financing**
CW-2 Program 3 Reduction and elimination of POPs	GEFTF	1,998,000	9,055,000
Total Project Cost		**1,998,000**	**9,055,000**

B. INDICATIVE PROJECT DESCRIPTION SUMMARY

Project Objective: This project aims at strengthening the capacity of national stakeholders to manage PCBs and achieve PCB elimination, address contaminated sites in an environmentally sound manner, and reduce U-POPs from opening burning, as identified as national priorities in the Gambia's National Implementation Plan for the Stockholm Convention.

Project Components	**Financing Type[3]**	**Project Outcomes**	**Project Outputs**	**Trust Fund**	**(in $)**	
					GEF Project Financing	**Co-financing**
1. Strengthening of legal frameworks, administrative processes, and technical preparedness for the sound management of PCBs and reduction of U-POPs emissions	TA	1.1 Legal framework for PCBs and U-POPs, revised/ developed and technical capacity of national stakeholders strengthened to support national implementation of the Stockholm Convention	1.1.1 Regulatory and institutional framework reviewed, and new and updated PCB and U-POPs related provisions proposed for inclusion in existing regulatory framework 1.1.2 National management plans and guidance on sound management of PCBs and U-POPs developed and endorsed 1.1.3 Key institutions trained on enforcement of regulatory measures regarding PCB management and reduction of U-POPs emissions	GEFTF	200,000	725,000

[1] Project ID number will be assigned by GEFSEC and to be entered by Agency in subsequent document submissions.
[2] When completing Table A, refer to the excerpts on *GEF 6 Results Frameworks for GETF, LDCF and SCCF*.
[3] Financing type can be either investment or technical assistance.

2. Environmentally sound management of PCBs and PCB-contaminated sites	TA	2.1 PCB inventory updated	2.1.1 Comprehensive PCB inventory completed, including sampling and analysis of phased-out and in-use equipment (ca. 3,000 samples) with final inventory results included in national PCB database	GEFTF	850,000	7,500,000
		2.2 PCB holders and stakeholders are capacitated to soundly manage PCBs	2.2.1 100 staff from environmental authorities, PCB holders, and other stakeholders trained on identification, labelling, safe packaging, storage, and final disposal as appropriate			
		2.3 15 tonnes of PCBs soundly disposed of and 60 tonnes of PCB equipment decontaminated, resulting in a reduced risk to human and environmental health	2.3.1 ESM of PCBs, including interim storage, final disposal of (at least) 15 tonnes of pure PCB oil; and 60 tonnes of PCB-contaminated oil, soil, and other waste. 2.3.2 Environmental Management Plans of at least three PCB-contaminated sites developed			
3. Minmizing releases of U-POPs from open burning of waste	TA/Inv	3.1 Capacity building for reducing U-POPs emissions of 35g I-TEQ/year (20% of the current estimate of 175 g I-TEQ/year), and plans to reduce exposure of the population to harmful substances implemented	3.1.1 Selected municipalities, local authorities, and communities provided with guidance and training for non-burn alternatives of municipal solid wastes and biomass, and demonstrating reduction, reuse and recycling (3R) approaches	GEFTF	625,000	450,000

4. Monitoring, learning, adaptive feedback, outreach and awareness raising, and evaluation	TA	4.1 Awareness raised on the adverse effects associated with PCBs and U-POPs, and on the applicability of BAT/BEP and alternative products leading to a better understanding of the issues and improved protection of human health and the environment	4.1.1 Awareness raising campaign, including customized information on risk management, applicable BAT/BEP and 3R of waste, developed and implemented	GEFTF	142,500	280,000
		4.2 Project results sustained and replicated	4.2.1 Gender Assessment conducted, M&E and adaptive management applied to project in response to needs, and evaluation findings and lessons learned extracted			
		4.3 Lessons learned and best practices are captured, published, and disseminated at national, regional and global levels	4.3.1 PCB and U-POPs management website established for engagement, sharing good practices, guidance/tools, and experiences 4.3.2 Yearly lessons-learned report/publication prepared and disseminated, and case study reports prepared 4.3.3 End of project publication prepared and disseminated			
			Subtotal		1,817,500	8,955,000
			Project Management Cost (PMC)[4]	GEFTF	180,500	100,000
			Total Project Cost		**1,998,000**	**9,055,000**

Note: Direct Project Costs will be charged by the UNDP Country Office as part of PMC although the exact amount will be specified during the PPG phase.

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 ($)
Recipient Government	Government of The Gambia - National Environment Agency (NEA)	In-kind	1,900,000
Beneficiaries	National Water and Electricity Company (NAWEC)	Cash and in-kind	6,580,000
Private Sector	Transformers holders such as Gambia Tannery Company (GAMTAN), small power generators	In-kind	400,000
Others	UNITAR	In-kind	175,000
Total Co-financing			**9,055,000**

[4] For GEF Project Financing up to $2 million, PMC could be up to10% 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.

D. INDICATIVE TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES) AND THE PROGRAMMING OF FUNDS [a)]

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
UNDP	GEFTF	The Gambia	Chemicals and Wastes	POPS	1,998,000	189,810	2,187,810
Total GEF Resources					**1,998,000**	**189,810**	**2,187,810**

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

E. PROJECT PREPARATION GRANT (PPG)[5]

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: $50,000				PPG Agency Fee: 4,750			
GEF Agency	Trust Fund	Country/ Regional/Global	Focal Area	Programming of Funds	(in $)		
					PPG (a)	**Agency Fee**[6] (b)	**Total** c = a + b
UNDP	GEF TF	The Gambia	Chemicals and Waste	POPS	50,000	4,750	54,750
Total PPG Amount					**50,000**	**4,750**	**54,750**

[5] PPG requested amount is determined by the size of the GEF Project Financing (PF) as follows: Up to $50k for PF up to$2m (for MSP); up to $100k for PF up to $3m; $150k for PF up to $6m; $200k for PF up to $10m; and $300k for PF above $10m. On an exceptional basis, PPG amount may differ upon detailed discussion and justification with the GEFSEC.

[6] PPG fee percentage follows the percentage of the Agency fee over the GEF Project Financing amount requested.

F. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS[7]
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	*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 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;	*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)	*metric tons*
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)	*75 metric tons (15 tonnes of pure PCBs and 60 tonnes of PCB-contaminated wastes and soils) and a reduction of 35 g I-TEQ/year*
	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.* Briefly describe: 1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed; 2) the baseline scenario or any associated baseline projects, 3) the proposed alternative scenario, GEF focal area[8] strategies, with a brief description of expected outcomes and components of the project, 4) incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing; 5) global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF); and 6) innovation, sustainability and potential for scaling up.

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

Since 1930, PCBs were used for a variety of industrial uses (mainly as dielectric fluids in capacitors and transformers but also as flame retardants, ink solvents, plasticizers, etc.) because of their chemical stability. PCBs are fire resistant, have a low electrical conductivity, high resistance to thermal breakdown, and a high resistance to oxidants

[7] Provide those indicator values in this table to the extent applicable to your proposed project. 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. There is no need to complete this table for climate adaptation projects financed solely through LDCF and/or SCCF.

[8] For biodiversity projects, in addition to explaining the project's consistency with the biodiversity focal area strategy, objectives and programs, please also describe which Aichi Target(s) the project will directly contribute to achieving.

and other chemicals. PCBs are considered to be immunotoxic and affect reproduction. Adverse effects associated to the exposure of PCBs include damage to the immune system, liver, skin, reproductive system, gastrointestinal tract and thyroid gland. The Stockholm Convention requires that all equipment containing concentrations of PCBs above 0.05% be phased out of equipment by 2025 and all PCBs be subject to environmentally sound management (ESM) for final disposal by 2028. Exposure to human health and the environment, lack of adequate data on PCBs, the existence of potentially significant PCB releases from use, stockpiles, and waste, and the need to phase-out and dispose of PCBs and equipment are major problems that have been prioritized for action in the Gambia.

Release of U-POPs (PCDD/F, HCB) from the improper management of municipal and hazardous waste (e.g. through open burning and low-technology incineration) is widely recognized as a global problem, which may only be addressed adopting a holistic approach involving the full life-cycle of materials and substances. One of the main sources of U-POPs releases (as well as releases of other toxic compounds) is the open burning of waste, including at landfills. Reducing releases of U-POPs from this source requires an approach based on the reduction of the amount of waste generated, proper segregation of waste, reuse and recycle whenever possible, and adoption of the proper disposal technologies.

The following are the main barriers present in the Gambia:

- *Lack of specific legislation on POPs*: Preliminary assessments of PCBs and U-POPs in the Gambia have shown a presence of appreciable amounts of these chemicals and have identified several gaps and limitations. For example, as outlined in the NIP: the National Environment Management Act (NEMA) of 1994 does not contain provisions for control of production or use of chemicals listed in Annex A II and Annex B III of the Stockholm Convention; there is no specific regulation under the Hazardous Chemicals and Pesticides Control and Management Act (HCPCMA) of 1994 regarding the management, handling, phase-out, and disposal of PCBs and PCB-contaminated material; there are no specific provisions under the Hazardous Chemicals Regulations 1999 to control the import or export of the chemicals (other than pesticides) listed in Annex A II and Annex B III of the Stockholm Convention; the Environmental Management Discharge Permit Regulations 2001 under NEMA 1994 does not require the use of BAT and BEP for new installations; there are no specific provisions for disposal of chemicals listed in Annex A II and Annex B III of the Stockholm Convention neither in the NEMA 1994, nor in the HCPCMA 1994 or in the enforcement regulations; and the 2007 Waste Management Bill does not address the reduction of U-POPs. Therefore, key management provisions need to be developed and incorporated into existing or new regulatory measures.
- *Lack of appropriate waste management and disposal infrastructure including interim storage facilities for PCBs:* Presently, there are no facilities in the Gambia for hazardous waste disposal. There is also a lack of interim storage facilities for PCBs. For example, the NIP states that "adequate storage conditions for PCB-containing equipment are not adhered to at the National Water and Electricity Company (NAWEC) […] The two facilities (Half Die and Booster) are not adequate for safe storage. The oil is left in the transformers and no proper arrangements made to address leakage. The environmental risk due to the two storage facilities requires urgent attention".
- *Absence of ESM practices for PCBs and U-POPs*: Limited institutional capacity along with a lack of regulations and sustainable funding have contributed to the inadequate management of PCBs and U-POPs emissions in the Gambia. For example, uncontrolled burning of waste accounts for more than 98% (105 g I-TEQ/yr) of the national total release of U-POPs, as per the NIP.
- *Contaminated sites*: Article 6 of the Stockholm Convention requires a Party to develop appropriate strategies for identifying sites contaminated by POPs chemicals (Annex A, B, and C Chemicals of the Stockholm Convention) and to undertake remediation of contaminated sites in an environmentally sound manner. Though not conclusive, the preliminary inventory on contaminated sites in the Gambia identified three sites that require site management plans including remediation measures. For example, at the Half Die Workshop, a facility where transformers (including PCB-containing transformers) are serviced, maintained, and stored, there are no best practices in place. As a result, pools of transformer oil pollute the area. The proximity of this workshop and storage facility to the sea further compounds the risks; rain and sewerage water runoff into the sea are common. The Booster Workshop and its Storage Facility have similar circumstances. Therefore, there is an urgent need to

conduct environmental risk assessments and prepare Environmental Management Plans for the sites and develop corresponding contaminated sites management plans.

- *Low awareness levels*: Despite efforts deployed during the 2009 NIP development, current levels of awareness on the adverse effects of PCBs and U-POPs remain low. Workers and the public are generally not aware of the adverse effects to human health and the environment of PCBs and U-POPs, nor are they aware of fitting ESM practices. Therefore, there is a need to develop a comprehensive awareness raising strategy, covering PCBs and U-POPs reduction targeted at key stakeholder groups and population groups at risk, such as PCB holders, maintenance workers, as well as, in particular, women of a child bearing age.

2) Baseline scenario or any associated baseline projects

This project aims at strengthening the capacities and capabilities of national stakeholders to manage PCBs and reduce U-POPs releases, in accordance with the priorities outlined in the 2009 National Implementation Plan for Persistent Organic Pollutants (NIP) and other national forums in the Gambia. In light of health concerns resulting from local exposure to chemicals such as POPs – in particular the impact upon women of a child bearing age, foetuses, and young children, and thus on future generations – and considering the vulnerability of a population with a low level of awareness, the Gambia has over the years taken concrete steps towards the development of a legal and institutional framework for the sound management of chemicals.

The Gambia ratified the Stockholm Convention on Persistent Organic Pollutants (POPs) in April 2006 and has undertaken several steps towards meeting its commitments to the Convention including the preparation of the NIP, which was submitted to the Convention's Secretariat in 2009. In addition, the Gambia is currently updating its NIP, with the financial support of GEF and UNEP as the implementing agency. The Gambia is also part of a regional project for the sound management of pesticides in the Sahel Region: "Disposal of Obsolete Pesticides including POPs and Strengthening Pesticide Management of The Comité Permanent Inter-Etats De La Lutte Contre La Sécheresse Dans Le Sahel (CILSS) Member States (FSP)".

The Gambia has also signed and ratified a number of other international and sub-regional agreements for the sound management of chemicals including the Rotterdam Convention; Basel Convention on the Transboundary Movement of Hazardous Wastes and Their Disposal; Bamako Convention; Montreal Protocol on Substances that Deplete the Ozone Layer; Common Regulations for the Registration of Pesticides in the Sahel; and the Strategic Approach to International Chemicals Management (SAICM). The Gambia has also signed the Minamata Convention on Mercury on 10 October 2013, and is being supported by UNITAR under a Swiss-funded project to prepare for ratification and early implementation of the Convention. Furthermore, the Gambia is preparing a GEF-funded MIA with the support of UNEP as the implementing agency.

PCBs: The result of the preliminary PCB inventory, conducted in 2006 during the NIP preparation process, indicates that a comprehensive inventory needs to be conducted on all PCB-suspected electrical equipment owned by the National Water and Electric Company of the Gambia (NAWEC). NAWEC is solely responsible for electricity generation, transmission and distribution nationwide, and has seven generating stations. Some private sector companies, such as the Gambia Tannery Company (GAMTAN), also have their own transformers. These companies have either served as backups to NAWEC's facilities, or as sources of electricity in places not covered by NAWEC. These companies will also need to be further assessed, potentially already during the project's PPG stage.

Following the preliminary PCB inventory, an initial national database was developed, containing data on transformers and environmental risks. This database is hosted by NAWEC and will provide a good starting point for preparing a comprehensive national PCB database and ultimately support the development of a national PCB phase-out plan. The key findings from the national database are presented below.

Table 1: Preliminary PCB inventory database (covering NAWEC), 2006

PCB concentrations	Number of transformers	Weight of oil (tons)	Total weight (tons)
Pure PCBs	4	1.825	3.615
PCBs >50ppm	33	19.765	29.454
Suspected PCBs	Unknown	37.692	42.000

Total	**> 37**	**59.282**	**75.069**

A total of 294 transformers have been inventoried. The PCBs testing has been limited to transformers manufactured before 1990 because the transformers manufactured after 1990 were deemed to be PCB-free. Four transformers, labelled by the trade name ASKAREL were considered to contain 100% PCBs (weight of oil 1.8 t). Test kits were used to identify possible contamination of transformer mineral oils by PCBs: 19.8 t of transformer oils were identified as PCB-contaminated and 37.7 t of transformer oils were assumed to be PCBs-contaminated (they could not be tested due to inaccessibility).

The NIP update project, which is currently being implemented, includes an update of the preliminary PCB inventory. As per the draft NIP update, since the previous preliminary PCB inventory, 58 tons of identified PCB-contaminated transformers have become unaccountable; it appears that most of these were sold as scrap metal to metal dealers. The latest inventory, which covered 275 transformers and is still under development, has so far identified 19 PCB-contaminated transformers that are currently in use (weighing 20 t), 18 decommissioned PCB-contaminated transformers (weighing 18.5 t), and 1 pure PCB transformer (weighing 1.5 t). A comprehensive PCB inventory is still required to obtain a more precise understanding of the amount of PCBs in the country.

However, the 2009 NIP and draft updated NIP recommend undertaking a comprehensive PCB inventory (of the approximately 3,000 transformers present in the country) that can be used as a basis for national PCB phase-out plans and disposal. Due to the absence of PCB-related data, either on the equipment's nameplate or contained in the equipment's manual, PCB concentrations have not been determined or characterized for most of the equipment inventoried during the preliminary assessments. The date of 1990 has been used as cut-off date (transformers manufactured after 1990 not being tested), which means that cross-contamination through maintenance of post-1990 transformers is not accounted for. Thus, lack of adequate data on PCBs, the existence of potentially significant PCB releases from use, stockpiles, and waste, and the need to phase out and dispose of PCBs and equipment are major problems that have been prioritized for action. Sampling all of the transformers in the Gambia would provide precise figures regarding PCB and PCB-contaminated transformers in the country.

Nevertheless, and for planning purposes, based on consultations with stakeholders in the Gambia, such as NAWEC, on the size of the electricity grid in the Gambia, and on experiences in other African countries, there are an estimated 75 tons of PCB and PCB-contaminated transformers. This estimate will be confirmed during the PPG stage but will be used as a basis for this PIF.

The following are the key management options for PCBs as proposed by the Gambia in its 2009 NIP and are reiterated in the updated preliminary PCB inventory report prepared under the NIP update project:

- Incorporate the necessary provisions with regard to PCBs import (ban) and export (only for the purpose of ESM) as well as on PCB management, handling and phasing-out into the Hazardous Chemicals Regulations 1999
- Elaborate and put in place regulations under the Waste Bill on disposal of PCBs and PCB-contaminated waste
- Review NAWEC's mandate with a view to covering the management of transformers and other PCB-contaminated equipment outside its purview
- Establish and put in place NAWEC guidelines for equipment management and handling
- Elaborate and put in place NAWEC guidelines for PCBs equipment phase-out, transportation, storage, and disposal
- Establish or upgrade existing laboratories for PCBs testing
- Develop and implement adequate training modules for all PCB regulators and users
- Develop and implement awareness raising programmes on PCBs for the general public
- Develop and implement standards for maximum limits of PCBs in different media.

There are a number of projects that are currently being undertaken by NAWEC in line with national power reforms and national development goals. These projects will be used as part of the co-financing to replace phased-out PCB-containing transformers with new PCB-free transformers. These projects include:

- Greater Banjul Area Electrification Rehabilitation of the Medium Voltage and Low Voltage Network: US$ 22 million refurbishment, rehabilitation and expansion of the electricity network in the Greater Banjul Area (GBA) funded by a loan from the Economic and Social Development Bank of Venezuela (BANDES).
- Rural Electrification Extension Project: Funded by the ECOWAS Bank for Investment and Development (EBID) through the India Line of Credit for the extension of the first phase of the Rural Electrification Program. The total project cost is US$20 million and NAWEC is required to make counter-part contribution of about US$1 million towards the project. This project will provide additional generating sets and Transmission and Distribution facilities.
- Additional 20 MW Generation Capacity – Brikama (II): Loan and Leases equal US$ 25.22 million (US$ 7.76 million and US $17.46 million respectively).
- Energy Development and Access Expansion Project (EDAEP): NAWEC in collaboration with the Ministry of Finance has secured funding from the OPEC Fund for International Development (OFID) for US$ 6 million to finance a new transmission line from the Brikama Power station through Mandinary to the Buffer Zone and Ebo-Town.
- ECOWAS Emergency Operations Support to NAWEC: The Government of the Gambia and ECOWAS signed an agreement for US$ 31.9 million for emergency support for the operations expenses of the power plants; e.g. HFO, lubricants and spare parts.
- Kotu Power Station Expansion Project (11 MW): The project is funded by the Arab Bank for Economic Development in Africa (BADEA) and OFID for $22.32 million with BADEA funding $9 million. The scope of works includes Design Review, Material Procurement, Construction, Installation and Commissioning of an 11MW Engines.

U-POPs: The Gambia's 2009 NIP lists U-POPs management as a priority area of concern. Vulnerable social groups and the environment are heavily exposed to harmful emissions including U-POPs from open burning of municipal solid waste. For example, waste "scavengers", for which the "dumpsite economy" is the only source of income, are heavily exposed to various chemical pollutants and biological hazards. The first inventory of U-POPs in the Gambia was prepared according to the UNEP Toolkit for the Identification and Quantification of Dioxins and Furans. The table below summarizes the PCDD/PCDF releases in the Gambia for the year 2000 (107 g I-TEQ/yr for air releases). The table identifies uncontrolled burning as the major source of releases accounting for more than 98% (105 g I-TEQ/yr) of the national total. Power generation and cooking, the second major source of releases, contributed about 2% to the national total. The contributions of the rest of the categories to the national total were relatively insignificant. The NIP update project also revisited the U-POPs inventory to identify additional sources of U-POPs particularly in the informal sector, which has grown with the Gambia's population increase in recent years. The findings and related proposed actions are in line with the first NIP and 2000 preliminary U-POPs inventory. However, it is worth noting that the updated U-POPs inventory reports that "with the establishment of more than 28 medical waste incinerators by a sponsored project under the National Nutrition Agency, across health facilities in the country without proper EIA conducted, the potential discharge of dioxins and furans is expected to increase from 2015".

Table 2: PCDD/PCDF releases in the Gambia for the year 2000

Activity		**Release (g I-TEQ/yr)**			
		Air	**Water**	**Land**	**Residue**
1	Waste incineration	0.18			0.0008
2	Fe & non Fe metals	0.011			0.017
3	Power generation, heating & cooking	1.88			0.4
4	Mineral products	0.0025			
5	Transport	0.040			
6	Uncontrolled combustion	105	3.3		65
7	Production & chemical use		0.66		

8	Miscellaneous	0.07			0.002
	Total	**107**	**3.96**		**65.4**

The NIP states that the category of uncontrolled combustion "is by far the most significant source of releases in the Gambia. Due to poor infrastructure and capacity and rapid population growth, this category is expected to remain the most significant emission source in the Gambia. Therefore this issue needs to be given the highest priority to ensure that most Gambians are protected from exposure to these chemicals.[...] The most critical factor in the reduction of PCDD/PCDF emissions in the Gambia is public sensitisation. The public needs to be informed about the sources of PCDD/PCDFs and the impacts of the chemicals on human health and the environment." In the city of Brikama, for example, where 40% of the Gambia's population lives, up to 90% of solid waste in the city is uncollected, which has led to widespread open dumping, uncontrolled burning, and the associated pollution of air, waterways, and land.

The NIP update project confirmed that uncontrolled open combustion in dumpsites remains the first priority problem to be addressed in the Gambia in terms of UPOPs emissions.

Regarding uncontrolled combustion processes in the Gambia, the major sub-categories are landfill fires, agricultural residues, and forest and bush fires. These are non-industrial activities and records are difficult to acquire. Regarding dumpsite fires, there are two dumpsites: Mile II and Bakoteh. The two sites contributed 6.8% to the national total of PCDD/PCDF releases. All domestic wastes generated in Banjul are dumped at the Mile II dumpsite, which is located next to a wetland. Some municipal waste is burned at home. For example, in 2000, 195,677 tons of domestic waste was generated in the Gambia and only 68,146 tons or 34.9% were dumped at the landfill sites; 42.4% of the domestic waste was burned at home. Regarding other sub-categories, 465,000 tons of agricultural residues were burned as well as 343,434 tons of biomass from forest fires (National Implementation Plan under the Stockholm Convention on POPs for The Gambia, 2009).

As part of the implementation of the 1997 Gambia Solid Waste Management Strategy, the Government of the Gambia initiated a comprehensive waste study of the Greater Banjul Area (GBA) and Brikama. The purpose of the study was to develop a viable waste management system for the GBA and Brikama (52% of the national population lives in these two cities according to the 2003 census) and recommend the resources necessary to implement the study. The study, which was completed in 2004 recommended, among other things, the eventual closure of both Bakoteh and Mile II dumpsites and proposed a new sanitary landfill at Tambana near Brikama. A number of projects have been initiated or undertaken to address some of the recommendations (see project details below).

In general, the waste management system in the Gambia is weak and under-funded. The uncontrolled burning of domestic and other waste is widespread throughout the country, partly due to its convenience. The collection, transportation and disposal systems do not have adequate human and financial resources and there are no sanitary landfill sites. In most cases, trucks for waste collection are insufficient in number and in poor working condition. Auxiliary infrastructure such as roads is in bad shape, making the transportation of waste extremely difficult or even impossible during the rainy seasons. Private services for the collection of waste are available, however, these services do not operate in low-income areas. There is no proper management of the landfill sites, where fires occur from time to time.

Waste is not separated into its various categories or components before final disposal, and very often healthcare waste or any other kind of hazardous waste are mixed together and dumped with municipal waste and this represents a significant risk to human health. As indicated in the 2014 Health Care Waste Management Plan developed in the Gambia with support from the World Bank, "Most of the government healthcare institutions are equipped with incinerators which, however, are in a serious state of disrepair […] Because most incinerators are not working, a lot of the health care waste is accumulating, with no one knowing what to do with it" (pages 28-30). The poor collection rate has led to substantial burning of waste in the backyards and in the streets in order to reduce volumes and get rid of the stench.

Recent measures include a nationwide ban on plastic bags from 1 July 2015[9] and initiation of a revision of the 2007 Waste Management Bill by the NEA in collaboration with relevant stakeholders. This involved a waste-related legislative study in 2015 to review all the relevant waste-related laws of the Gambia to determine the adequacy in addressing the country's waste situation. The present project will provide important input into the finalisation of the Waste Management Bill revision to ensure that the reduction of U-POPs and related measures are adequately addressed.

In addition, in July 2015, the Kanifing Municipal Council (KMC) entered into a 2.5 million EUR agreement with a private sector company (JMP Company Limited, based in Italy) for the rehabilitation of the Bakoteh dumpsite, which is the main site for discharging of domestic waste in the Greater Banjul Area (GBA).[10] The project, which has not yet commenced, provides a significant opportunity to address the reduction of U-POPs on a large scale.

Also in 2015, the "Building Capacity for Sustainable Waste Management for Coastal Communities through Women and Youth Livelihoods" project was executed by WasteAid UK with local partners, such as Women's Initiative – the Gambia (WIG). Under the project, WasteAid UK prepared "The State of Solid Waste Management in The Gambia – a review". A local waste training and entrepreneurship centre ("Waste Innovation Centre") was also set up in Brikama that researches suitable waste reprocessing techniques, raises awareness about the problems caused by poor waste management, and provides practical training on how to recycle waste. Through the project, four separate reprocessing technologies have been developed: turning plastic bags into paving slabs; leaf litter into charcoal; fish waste into fishmeal; and food waste into fertiliser.[11] Fifty waste entrepreneurs have been trained in five communities in practical reprocessing skills and have also been trained as trainers to replicate the training at the community level. The Centre has collected 23 t of organic and plastic waste for reprocessing, with another 35 t of waste estimated to have been reprocessed in the five community hubs as a result of the actions of the trainers and mentors. WIG has also been educating communities about the hazards of burning waste and how to recycle since 2009.[12] WasteAid UK will also be co-hosting a community waste management conference in the Gambia in Spring 2017 to field test guidance (on developing reuse and recycling technologies in low- and middle-income countries) and discuss and test technologies with community waste managers.[13]

Other projects include undertaking selective disposal operations in April 2016, executed by Project Lighthouse Gambia (PLG) and NGO Dresden Banjul Organisation (DBO), which disposed of some 600 t of garbage stockpiled in the dwelling zone of Wellingara. Project Lighthouse Africa has also established, in close cooperation with the Waste Management Department of Kanifing Municipal Council (KMC), a database for the volume and the flow of waste generated in the KMC area.[14]

The Department of Forestry has done some work that is beginning to stem the incidence of uncontrolled fires. There are significant increases in the area of forests under controlled management in all the regions. The trend is expected to continue thanks to a National forestry policy and action plan as well as forestry regulations that are in place, which should contribute to reduction of forest fires and thus U-POPs emissions. This proposed project will build on, coordinate with, and reinforce such initiatives. The following are the key management options regarding U-POPs as proposed by the Gambia in its 2009 NIP:

- Enact the Waste Management Bill 2003
- Strengthen the capacity of NEA Inspectorate to enforce effective pollution prevention and control

[9] "Life after Plastic: How Has Gambia Coped after the Ban on Plastic?", InGambia, http://www.ingambia.com/life-after-plastic-how-has-gambia-coped-after-the-ban-on-plastic/

[10] 'Bakoteh dumpsite project soon – KMC PRO", The Standard, 12 April 2016, http://standard.gm/site/2016/04/12/bakoteh-dumpsite-project-soon-kmc-pro/

[11] "WasteAid UK wins award for Gambia work", Resource Media, 8 June 2016, http://resource.co/article/wasteaid-uk-wins-award-gambia-work-11155

[12] "Gambian community project helps women turn waste to worth", The Guardian, 18 September 2015, https://www.theguardian.com/global-development/2015/sep/18/the-gambia-recycling-innovation-centre-womens-initiative

[13] "Guidance on recycling technologies for developing countries to be funded by CIWM", Resource Media, 23 November 2016, http://resource.co/article/guidance-recycling-technologies-developing-countries-be-funded-ciwm-11502

[14] Project Lighthouse Gambia website, http://www.prolightgambia.org/projects.html

- Strengthen capacity of institutions for waste management (waste collection, transportation and storage equipment, and sanitary landfill facilities)
- Training of local authorities (NEA and DOSH) in sound municipal waste management
- Awareness raising on proper waste management practices to general public
- Regular updating of emission inventory

Finally, the NIP Update project noted in its inventory of UPOPs emissions that awareness raising related to the NIP has led to improved practices on the types of materials used for burning activities related to fish smoking, animal skin smoking, or charcoal production, thus reducing associated emissions.

3) The proposed alternative scenario

Component 1: Strengthening of legal frameworks, administrative processes, and technical preparedness for the sound management of PCBs and reduction of U-POPs emissions
Component 2: Environmentally sound management of PCBs and PCB-contaminated sites
Component 3: Minimizing releases of U-POPs from open burning of waste
Component 4: Monitoring, learning, adaptive feedback, outreach and awareness raising, and evaluation

Below is a brief description of the proposed components:

Component 1: Strengthening of legal frameworks, administrative processes, and technical preparedness for the sound management of PCBs and reduction of U-POPs emissions (GEF Grant: 200,000 US$; co-financing: 725,000 US$)

Under this project component, a national project secretariat, headed by the national project manager (and hosted by the National Environment Agency (NEA)), will be established in the Gambia. A National Project Committee (NPC) will also be established making full use of existing structures dealing with chemicals management (e.g. national coordination groups for POPs, SAICM, etc.) to coordinate and guide project implementation. The NPC will comprise a group of experts from different sectors (e.g. government, private sector, informal sector, academia, and NGOs) whose roles will be coordination, oversight, and advisory regarding project activities. The NPC will seek synergies and joint activities with existing and relevant planned chemicals-related activities. Members of the NPC will receive intensive training and will train other stakeholders (using a train-the-trainers model) in coordination with the executing partner, enabling replication at the local level.

Outcome 1.1 Legal framework for PCBs and U-POPs revised/developed and technical capacity of national stakeholders strengthened to support national implementation of the Stockholm Convention

Output 1.1.1 Regulatory and institutional framework reviewed, and new and updated PCB and U-POPs related provisions proposed for inclusion in existing regulatory framework

This Output will support the Gambia to conduct comprehensive assessments of the national legal framework, institutional arrangements, administrative processes, and technical preparedness related to the sound management of PCBs and U-POPs. The assessments will also include a prioritization of needs. Regarding U-POPs, this output will be closely coordinated with the 2015 activities that initiated revision of the 2007 Waste Management Bill, which is not yet finalised. After the comprehensive assessments, a decision will be made regarding whether to draft new legislation specifically on PCBs and U-POPs/municipal solid waste or strengthen the existing ones with inclusion of relevant provisions.

A national stakeholder surveillance network to prevent importation and illegal use of equipment likely to contain PCBs will be developed and anchored into national law. The surveillance network will include representatives of government, private sector, customs officers, academia, and NGOs, and will also support the appropriate personnel to undertake periodic monitoring visits to PCB holders. The key stakeholder for enforcement of the import ban will be Customs.

Output 1.1.2 National management plans and guidance on sound management of PCBs developed and endorsed

The findings of the inventory and feasibility study (prepared under Output 2.1.1; see below) will form a basis for the development of a national PCB management plan. The purpose of the PCB management plan is to establish a roadmap for the disposal/decontamination of transformers containing PCBs while ensuring rational use of the economic resources, minimum impact/disruption of the production activities (i.e. electricity production) through integration with normal maintenance operations, and cost optimization. The management plan will set environmental objectives and criteria, and occupational safety rules. The following criteria will be adopted in drafting the management plan:

- Prioritization (PCB concentration, risk assessment, transformer residual life)
- Selection of the proper technologies (based on PCB concentration and trade-off between transformers residual life and clean-up vs. disposal cost)
- Economic sustainability
- Accountability
- Sound and feasible time planning

Appropriate tools will also be developed to address the key gaps identified in the NIP and under Output 1.1.1. For example, technical guidance documents will serve as the technical reference documents for project staff, NAWEC staff, and others, and will cover the following aspects: national and international regulations concerning PCBs (including Stockholm and Basel Conventions and associated guidance), sampling of electrical equipment, use of screening (quantitative or qualitative) analytical devices for PCBs, PCB labelling criteria and standards, packaging, transportation, storage and international shipment, technical specification for storage facilities, rationale for the selection of disposal and treatment technologies. Training will be mainly addressed to staff of relevant Ministries and environmental authorities, including the members of the National Project Committee and project staff, on the national and international regulation concerning PCBs, how to design a sound PCB management plan, enforcement of the legislation, and key steps on PCB management.

Output 1.1.3 Key institutions trained on enforcement of regulatory measures regarding PCB management and reduction of U-POPs emissions

Under this project, the primary legislation enforcers such as the officers from NEA will be trained on the implementation aspects including interpretation of the provisions of the new or revised legislation. To facilitate prosecution of violators, a prosecutor course will be specifically designed and conducted for all eligible environmental inspectors and other relevant stakeholders.

The secondary enforcers such as stakeholders from line ministries, industry, NGOs, and other stakeholders will also be trained to fully familiarise them with the provisions of the new or revised legislation and to clarify the role that they can play to support the full implementation of these laws.

Component 2: Environmentally sound management of PCBs and PCB-contaminated sites (GEF Grant: 850,000 US$; co-financing: 7,500,000 US$)

During the PPG phase, a preliminary PCB assessment will be conducted in the Gambia, jointly by government authorities and PCB holders, to more precisely define the scope of the issues and thus the project. All of the holders of transformers and capacitors will be contacted and a list of all transformers in the country by sector will be prepared. In addition, the preliminary results of the PCB inventories conducted as part of the 2009 NIP and 2016 NIP update will be re-analysed, and at least 50 oil samples from electrical equipment will be analysed to further establish the current situation concerning the presence of PCBs. These findings will serve as input to the final project document and project indicators will be based on the PPG's outcomes and monitored during project implementation.

Outcome 2.1 PCB inventory updated

Output 2.1.1 Comprehensive PCB inventory completed, including sampling and analysis of phased-out and in-use equipment (ca. 3,000 samples) with final inventory results included in national PCB database

Firstly, this project Output will support the Gambia to review and strengthen its data collection and management capacity regarding PCBs. The Gambia will assess its data needs and develop protocols and procedures for data collection, sampling and analysis, processing, and storage. A comprehensive PCB inventory will be conducted

during the implementation phase of the project and will include the sampling and analysis of phased-out and in-use equipment (ca. 3,000). A national database will be developed, which will also provide a platform for characterisation of PCB waste streams. This characterization will then facilitate undertaking a feasibility study of using available, robust, and cost-effective technologies to promote ESM and disposal of PCBs. The evaluation of disposal options will take into account the levels of PCB concentrations and the condition of the equipment.

For example, the treatment or disposal of contaminated transformers that are relatively new and in good working order might only require a dechlorination approach. Old, defective, and highly contaminated transformers (in low- or high-risk areas) might require a different approach. These types of transformers and capacitors will be considered for dismantling at licensed facilities abroad, where the PCB oil, contaminated soils and the non-recyclable waste (wood, cardboard) will be thermally treated, and the valuable scrap may be de-contaminated and sold. Developing domestic treatment technologies will also be explored. The final decisions for treatment or disposal options will be based on a feasibility study which will carefully consider national risk hierarchy, cost estimates and financial feasibility and viability considerations, etc.

Outcome 2.2 PCB holders and stakeholders are capacitated to soundly manage PCBs

Output 2.2.1 100 staff from environmental authorities, PCB holders, and other stakeholders trained on identification, labelling, safe packaging, storage, and final disposal as appropriate

In coordination with Output 1.1.2, hands-on training conducted by international experts will be provided to project staff, environmental authorities, PCB holders (e.g. NAWEC, GAMTAN, etc.), and other relevant stakeholders covering all of the steps in PCB management such as identification, labelling, safe packaging, collection, transport, storage, and final disposal of PCBs, based on new/proposed legal requirements and best practices (see Project Component 1). This practical hands-on training will build the technical capacity of those that will be physically engaged in PCB management, such as handling PCB-contaminated transformers, how to perform sampling and testing of dielectric oil, to ensure that proper methodologies are adopted, risks are minimised and environmentally sound management is applied.

Outcome 2.3 15 tonnes of pure PCBs and 60 tonnes of PCB contaminated oil, soils and other materials soundly disposed of, resulting in a reduced risk to human and environmental health

Output 2.3.1 ESM of PCBs, including interim storage, final disposal of (at least) 15 tonnes of pure PCB oil; and decontamination of 60 tonnes of PCB-contaminated waste/ equipment

At least one interim storage facility will be upgraded in a central location where PCB oil, contaminated equipment, and materials will be stored. A remediation plan will be developed for the interim storage site and implemented following final disposal of PCBs. At the PPG phase, NAWEC will be requested to make a firm commitment to provide options for location of the interim storage facility including undertaking an environmental assessment of the site and upgrading according to internationally acceptable standards. This will be part of the co-financing.

At least 15 tonnes of pure PCB oil and 60 tonnes of PCB contaminated oil, soils and other materials will be disposed of in an environmentally sound manner. The disposal is expected to be undertaken at international licensed disposal facility, and to take into account the results of Output 2.1.1.

Output 2.3.2 Environmental Management Plans of at least three PCB-contaminated sites developed

Though not conclusive, the preliminary inventory on contaminated sites in the Gambia identified three sites that require site management plans including remediation measures. For example, at the Half Die Workshop, a facility where transformers (including PCB-containing transformers) are serviced, maintained, and stored, there are no best practices in place. The Booster Workshop and its Storage Facility have similar circumstances.

Environmental risk assessments and Environmental Management Plans will be prepared for at least three such sites – one of which could be for the interim storage site mentioned in Output 2.3.1. The Government of the Gambia and PCB holders, applying their own co-financing and resources will, in parallel to the GEF project, support the remediation of contaminated sites.

Component 3: Minimizing releases of U-POPs from open burning of waste (GEF Grant: 625,000 US$; co-financing: 450,000 US$)

This component will commence with the review and validation of national studies and initiatives that have been conducted at the national level regarding U-POPs/municipal solid waste. This includes, for example, the inventory of U-POPs (see Table 2 above), KMC area waste generation database, "The State of Solid Waste Management in The Gambia – a review", and the 1997 Gambia Solid Waste Management Strategy, and coordination with other waste management projects and partners (as listed in section 2 above). If required, additional assessments will be conducted during the PPG phase in order to obtain a comprehensive and up-to-date set of data.

Outcome 3.1 Capacity building for reducing U-POPs emissions of 35g I-TEQ/year (20% of the current estimate of 175 g I-TEQ/year), and plans to reduce exposure of the population to harmful substances implemented

Output 3.1.1 Selected municipalities, local authorities, and communities provided with guidance and training for non-burn alternatives of municipal solid wastes and biomass, and demonstrating reduction, reuse and recycling (3R) approaches

This Output will focus on promoting non-burn alternatives of municipal solid wastes and biomass, and demonstrating 3R approaches. This will involve: (i) the development and dissemination of guidance and training materials that discourage open burning of wastes and biomass in the local communities and agricultural activities; (ii) pilot activities to test and identify the most appropriate and effective approaches; and (iii) undertaking national training involving municipalities, local authorities, and communities (including households) regarding the hazards of open burning and U-POPs, and alternative approaches such as composting.

The pilot activities will build on previous waste management efforts in the Gambia and other similar countries, include in-depth consultations with stakeholders, and focus on relevant technologies and approaches to increase recycling, repurposing, and composting. Social and economic impacts and encouraging private sector participation will also be considered and appropriately addressed. The pilot activities will also facilitate regularly communicating with stakeholders and measuring medium-term progress in achieving reductions in open burning and therefore U-POPs.

Pilot activities will be considered and would address U-POPs reduction through various possible methods such as sorting / recycling / composting and avoidance of burning of crop residues. The Ministry of Agriculture, for example, will be closely engaged to promote alternative and sustainable methods of farming that discourage open burning of biomass and instead benefit agricultural production. Similarly, pilot and training activities will take place at the main dumpsites to equip the personnel with the skills to reduce open burning of waste at the dumpsites.

This component will be closely coordinated with relevant initiatives and partners including the Bakoteh dumpsite rehabilitation project, "Building Capacity for Sustainable Waste Management for Coastal Communities through Women and Youth Livelihoods" project, WasteAid UK, WIG, Project Lighthouse, and other local and community-level partners. For example, best practices and lessons learned from WIG, which has experience educating communities about the hazards of open-burning and how to recycle, will be built into the design of the above training. Similarly, activities will build on the experience and guidance of the Waste Innovation Centre, WasteAid UK, and other partners regarding, inter alia, reuse and recycling technologies applicable to the Gambia.

Component 4: Monitoring, learning, adaptive feedback, outreach and awareness raising, and evaluation (GEF Grant: 142,500 US$; co-financing: 280,000 US$)

Outcome 4.1 Awareness raised on the adverse effects associated with PCBs and U-POPs, and on the applicability of BAT/BEP and alternative products leading to a better understanding of the issues and improved protection of human health and the environment

Output 4.1.1 Awareness raising campaign, including customized information on risk management, applicable

BAT/BEP, and 3R of waste, developed and implemented

An awareness raising strategy on PCBs and U-POPs/municipal solid waste will be developed and materials such as brochures and posters will be prepared for different target groups. An awareness raising campaign will include briefing events for mid-level managers (e.g. facility managers), high-level officials (ministers, members of parliament, and chief executives), and the media. Furthermore, local communities will have access to awareness raising materials in their own local languages and trainings at the community level will be organized. This will address PCB management, risk management, applicable BAT/BEP, 3R of waste, and new/revised legislation. The awareness raising will also contribute to generating political support for the project. Key partners such as the Ministry of Agriculture will be closely engaged (for example, to promote alternative and sustainable methods of farming that discourage open burning of biomass and instead benefit agricultural production) and others that are active at the community-level such as WIG, WasteAid UK, and Project Lighthouse.

Outcome 4.2 Project results sustained and replicated

Output 4.2.1 Gender Assessment conducted, M&E and adaptive management applied to project in response to needs, and evaluation findings and lessons learned extracted

Project-level monitoring and evaluation will be undertaken in compliance with standard UNDP requirements as outlined in the UNDP POPP and UNDP Evaluation Policy; additional and mandatory GEF-specific M&E requirements will be undertaken in accordance with the GEF M&E policy and GEF guidance materials.

In addition to these mandatory UNDP and GEF M&E requirements, other M&E activities deemed necessary to support project-level adaptive management, and the exact role of project target groups and other stakeholders in project M&E activities, will be finalized during the Inception Workshop and will be detailed in the Inception Report.

The project will also undertake a gender assessment during the project's PPG phase, the details of which are given in the *Gender Equality and Women's Empowerment* section below.

Monitoring and Evaluation activities will at a minimum include: Inception Workshop (and Inception Report); Standard UNDP monitoring and reporting requirements as outlined in the UNDP POPP; Monitoring of indicators in project results framework; GEF Project Implementation Report (PIR); NEX Audit as per UNDP audit policies; Supervision missions; Oversight missions; GEF Secretariat learning missions/site visits; Independent Mid-term Review (MTR); GEF Tracking Tool; and Terminal Evaluation (TE).

Outcome 4.3 Lessons learned and best practices are captured, published, and disseminated at national, regional and global levels

Output 4.3.1 PCB and U-POPs management website established for engagement, sharing good practices, guidance/tools, and experiences

A website will be developed and hosted by NEA to provide a central location for information on national PCB and U-POPs management during and post-project implementation. It will be designed to facilitate engaging stakeholders; sharing project information and guidance and training materials; and enabling stakeholders to submit queries and input regarding PCB and U-POPs management techniques, technologies, and project activities. Public access will be granted to all resources that are of public relevance such as project performance reports and guidance materials on the ESM of PCBs and reduction of U-POPs. UNDP (particularly through its Country Office) and UNITAR will support relevant stakeholders in the Gambia on website development, use of social media, and other electronic means of communication.

Output 4.3.2 Yearly lessons-learned report/publication prepared and disseminated, and case study reports prepared

Lessons learned will be identified for each project milestone, endorsed by national stakeholders, and shared internally and externally with other project countries such as Ethiopia and Kenya where similar projects are envisaged. Best practices for introduction of ESM will be identified, documented, and disseminated to project participants, other stakeholders, and Parties of the Stockholm Convention.

Output 4.3.3 End of project publication prepared and disseminated

A final project document will be prepared that summarises the project and key findings, to be shared with all national stakeholders in the Gambia as well as external partners.

4) Incremental/additional cost reasoning and expected contributions from the baseline; *and* ***5) Global environmental benefits***

Incremental reasoning and global environmental benefits (GEBs)			
Component	Baseline scenario and baseline projects	Incremental reasoning	GEBs
Component 1: Strengthening of legal frameworks, administrative processes, and technical preparedness for the sound management of PCBs and reduction of U-POPs emissions	The Gambia's regulations do not contain specific reference to or provisions regarding PCBs or U-POPs. Initiation of revisions to the 2007 Waste Management Bill commenced in 2015, but have not been finalised. No monitoring network exists regarding imported equipment or articles such as transformers that may contain PCBs.	The project will provide technical and financial assistance for the review and amendment of current legislation to include specific reference to PCBs and U-POPs/open burning. The technical and financial assistance provided will also enable the Gambia to develop and implement a PCB monitoring/surveillance system which will help prevent further imports of equipment that may contain PCBs.	Not quantifiable. However, the project will ensure the long-term sustainability of actions aimed at reducing the release of PCBs and U-POPs into the environment through the disposal of PCBs and ESM of municipal solid waste, and the enforcement of appropriate legislation.
Component 2: Environmentally sound management of PCBs and PCB-contaminated sites	The 2009 NIP included preparation of a preliminary PCB inventory and PCB action plan. A comprehensive national PCB inventory, however, is required in the Gambia. Related management plans and operational procedures are also needed. Defective PCB-contaminated equipment and contaminated sites across the country continue to expose both humans and the environment to risks. Power utility companies in the Gambia have been replacing old and defective transformers that may also contain PCBs. Many of these decommissioned transformers are sold to local recyclers, despite the need to discontinue such practices and instead ensure sound disposal options are put in place.	The project will support the Government of the Gambia, the private sector, and other stakeholders to undertake a comprehensive and reliable inventory for PCBs. The PCB database developed from this exercise will also be used by the private sector to improve energy service delivery beyond the project lifespan. This will contribute directly to the Gambia's social and economic development. The project will secure the disposal of at least 75 metric tonnes of PCBs. It will also build capacity of the Gambia to dispose of future stockpiles of chemicals in compliance with Stockholm Convention requirements or other national priorities.	This component will deliver the necessary management tools for achieving the safe disposal of PCBs, thereby eliminating the related risks and contributing to the overall reduction of the global POPs' aggregate load in the environment. 75 metric tonnes of PCBs disposed of, and national capacity built to deal with future stockpiles.

Component 3: Minimizing releases of U-POPs from open burning of waste	The open burning of municipal solid waste is widely practiced in the Gambia, and often results in U-POPs. The situation is characterised by significant challenges due to insufficient funds and poor management practices. However, a number of waste management initiatives have been undertaken in recent years including, inter alia, a nationwide ban on plastic bags; initiation of a revision of the 2007 Waste Management Bill; initiation of Bakoteh dumpsite rehabilitation; and community-level reuse and recycling projects. The management problems and resulting releases of U-POPs can become even more pressing as the population continues to grow and consumer needs and waste generation will increase accordingly. Furthermore, without the GEF project, activities already undertaken under initiatives mentioned above may tend to be carried out on an ad-hoc basis and without sufficient coordination.	The project will support the reduction of U-POPs through providing guidance and training and capacity building on ESM of municipal solid waste, including strengthening of human capabilities, techniques, and skills, and knowledge sharing and dissemination of best practices. The GEF financing will be used to support complementary non-burn activities including development of an awareness raising strategy and related activities; establishing sustainable training programmes (at both national and local levels, including assessment of national learning needs and institution training capacities to develop the national training strategy); establishing sustainable national coordinating mechanisms; strengthening the 3Rs of the waste management hierarchy at the national and local level; promoting non-burn alternative approaches in the agricultural sector; and strengthening enabling legislation. This will include (i) the development and dissemination of guidance and training materials that discourage open burning of wastes and biomass in the local communities and agricultural activities; (ii) pilot activities to test and identify the most appropriate and effective approaches; and (iii) undertaking national training involving municipalities, local authorities, and communities (including households) regarding the hazards of open burning and U-POPs, and alternative approaches such as composting. The project will aim to faciliatate coordination and exchanges among initiatives, and also help ensure that many more communities benefit from better waste management practices.	A reduction of U-POPs from the open burning of solid waste of 35 g I-TEQ/year will be ensured.

Component 4: Monitoring, learning, adaptive feedback, outreach and awareness raising, and evaluation	Current chemicals and waste management practices, including the servicing and repair of transformers and capacitors, in the Gambia remain inadequate. The present scenario has greatly contributed to the mismanagement of PCB and municipal solid waste, and increases the likelihood of PCBs and U-POPs releases into the environment. In recent years, community-level projects on waste management have been undertaken by the government and NGOs such as WIG, WasteAid UK, and Project Lighthouse.	The project will provide a platform for introducing BAT and BEP into the Gambia and for regularly evaluating their appropriateness in the management of PCBs, municipal solid waste, and reducing releases of U-POPs.	Lessons learned and best practices will be identified, documented, and disseminated to project participants, other stakeholders, and Parties of the Stockholm Convention.

6) Innovation, sustainability and potential for scaling up

Innovation: The project will introduce both (i) technologies, practices, and approaches that have been applied elsewhere in the region or the world and which have proven successful and which are thought to be fitting for local, national, and regional circumstances in the project countries, as well as (ii) approaches that have not yet been tested in the region, but which are thought to be technically and financially feasible and sustainable. For example, the PCB management activities have been applied in various African countries; however, the reduction of U-POPs is still less common in the region. These newer approaches will look into the most efficient ways to reduce U-POPs emissions, taking a comprehensive approach that makes use of, inter alia, legislation and enforcement, technical training and support, and awareness raising, and involving a wide range of stakeholders. For example, the Ministry of Agriculture will also be closely engaged to promote alternative and sustainable methods of farming that both discourage open burning of biomass and benefit agricultural production.

The project also has a strong knowledge management component, which includes an awareness raising campaign and a PCB and U-POPs management website for, inter alia, sharing information, good practices, guidance materials/tools and experiences, and yearly lessons-learned reports/publications, both during and after project implementation. This will ensure that none of the experiences from the project will be lost.

Sustainability: There are several aspects addressed and supported by the project which will contribute towards sustaining the project's results beyond the project's duration:

- The creation of an enabling environment through improved national legislative and regulatory frameworks for PCB management and reduction of U-POPs.
- Developing guidance and providing training, that can be replicated as needed, on PCB management and reduction of U-POPs to a wide range of stakeholders. The training will be implemented with the support of, inter alia, the national training institutions, National Project Committee (NPC), UNITAR, and UNDP. All guidance and training materials will continue to be accessible on the PCB and U-POPs management website beyond the project's duration.
- Establishing a national stakeholder surveillance network to prevent importation and illegal use of equipment likely to contain PCBs, and supported by the national legislation. These will be developed and anchored into

national law and will include representatives of government, private sector, customs officers, academia, and NGOs.

- Awareness raising of all those involved in and/or impacted by PCB management and reduction of U-POPs.
- The Government of the Gambia, applying its own co-financing and resources and building on the "The Gambia Solid Waste Management Strategy" (1997) prepared under the Gambia Government-World Bank/IDA Capacity Building for Environmental Management Technical Assistance Project, will, in parallel to the GEF project, support activities to reduce U-POPs emissions, such as the reduction of the amount of waste generated, proper segregation of waste, reuse and recycle whenever possible, and adoption of the proper disposal technologies.

Potential for scaling up: The approaches that are relatively new to the region, such as reduction of U-POPs, will be tested in the Gambia and will facilitate scale-up and replication. The project will document the interventions applied, through, inter alia, preparation of yearly lessons-learned reports/publications, and this will enable other stakeholders to replicate such approaches and select the practices and technologies most fitting to their needs and circumstances.

National legislation, enforcement measures, and plans pertaining to PCB management and reduction of U-POPs, which will be developed/strengthened as part of the project, will also support the scale-up/replication of project interventions among entities/partners which did not participate in the project, through enactment and monitoring of these legislative or regulatory measures by national enforcement entities. The approaches learned in establishing and strengthening such frameworks can also be applied to other areas of chemicals management in the future.

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 will target at a minimum the following stakeholders: Ministry of Environment, Climate Change, Water and Wildlife; National Environmental Agency (NEA); Gambia Revenue Authority (Customs Department); NAWEC; GAMTAN; Ministry of Justice; Ministry of Health and Social Welfare; Ministry of Trade, Industry, Regional Integration & Employment; academia; and NGOs. During the project preparation phase, additional stakeholders will be identified and invited to participate. Bilateral meetings will be held with all stakeholders followed by a national stakeholder consultation meeting. The consultations will include soliciting their views on the appropriateness of the project, how it affects them, and how they can contribute to project implementation by defining specific roles that they can play. The stakeholders will also be requested to make specific commitments to the project, such as making co-financing pledges.

STAKEHOLDER	AFFILIATION	SPECIALIZATION	ROLE IN THE PROJECT
National Environment Agency (NEA), Ministry of Environment, Climate Change, Water and Wildlife	Government	Operates under the Department of State for Fisheries, Natural Resources and the Environment. The Hazardous Chemicals and Pesticide Control and Management Act (1994), mandates it to control the use of chemicals and pesticides in the Gambia.	• Hosts the National Project Secretariat • Chairs the NPC • Coordinates the execution of the national comprehensive inventory exercise on PCBs and contaminated sites, where required • Supports national training conducted under the project • Provides technical support to the legislation review
NAWEC	Quasi-Government	Ensures the safe, effective and efficient provision of affordable nationwide electricity, water and sewerage services to meet consumer requirements, generate reasonable rates of return on investments and contribute to the socio-economic development of the Gambia.	• Member of the NPC • Provides a dedicated officer to lead the PCB inventory at the national level • Provides technicians for the inventory at the domestic regional level • Provides logistics for project related activities

Ministry of Health and Social Welfare	Government	Ensures accessible, affordable and quality health and welfare care for all living in the Gambia.	• Member of the NPC • Provides specialized knowledge on the effects of PCBs and U-POPs on human health • Participates in national awareness raising activities
Ministry of Justice	Government	Promotes and enhances justice for all, the rule of law and good governance.	• Member of the NPC • Leads the legislation review
The Gambian Revenue Authority (Customs and Excise)	Government Agency	Implements measures to improve tax administration and thereby boost revenues through efficiency gains. The customs and excise department executes some of the country's external trade obligations, in terms of tariff classification and valuation and making decisions for the release of goods imported into the country.	• Member of the NPC • Leads the national PCBs monitoring/surveillance network • Participates in the execution of the internal M&E of the project
Academia	Quasi-Government	Provides higher education and undertakes research including in environmental science.	• Member of the NPC • Supports training and research activities of the project
Nongovernmental Organisations	Civil Society Organisations (CSOs)	NGOs are involved in advocacy and lobbying in addition to their routine programme implementation activities. Please note that "the Association of Non-Governmental Organizations in the Gambia (TANGO), founded in 1983, is the umbrella organization for NGOs operating in the country. The Association was founded by a group of NGOs out of the concern to avoid duplication of NGO efforts, and to minimize conflict and competition between NGOs".[15] TANGO will nominate the representative to the project steering group. NGO-led projects in solid waste management (described above in this PIF) will justifiy further cooperation with NGOs, to be confirmed during the PPG phase.	• Member of the NPC • Leads the execution of the internal M&E of the project • Leads the awareness raising activities • Participates in the national PCBs monitoring/surveillance network

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.

Gender mainstreaming will be prioritized throughout the project. For example, equal opportunity to participate in project activities (including as members of the NPC) and decision-making at all levels will be ensured. In the course of the recruitment processes, the project will encourage women applicants.

Equal access to information (e.g. regarding risk management, BAT, BEP, and project activities) related to PCBs and open burning/U-POPs will be ensured. Awareness raising materials specifically designed for facilitating women's involvement will be prepared, which will introduce the gender-differentiated impacts of PCBs and U-POPs exposure to human health, particularly reproductive health. This will also be taken into consideration when implementing specific project activities related, for example, to the use of PPE or adoption of risk-reduction counter-measures.

[15] *http://www.tangogambia.org/*

The Gender assessment planned under Component 4 will help assess the various gender dimensions of the project and its interventions and determine the various ways in which PCBs and U-POPs, and the associated project activities impact various occupational and population groups. Efforts will be made to collect data disaggregated by sex in every project area. This gender assessment will be used to help adjust the design and interventions of the proposed project in such a way that gender equality and women empowerment can be better achieved throughout the project's implementation. The assessment report will also be published and disseminated at global level to help inform other similar projects. Reference documents on gender and chemicals developed by UNDP, as well as the recently conducted gender assessment for a similar project on UPOPs reduction in Nigeria (GEF Project # 3804) will be used as basis for this work.

Towards the end of the project (around the time of the TE) the gender assessment will be updated in order to reflect any changes the project would have brought about contributing towards the achievement of SDG 5: Achieve Gender Equality and Empower all Women and Girls, and in particular Target 5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life.

The UNDP Training Manual "Gender Mainstreaming – A Key Driver of Development in Environment and Energy (UNDP 2007)", the 2011 UNDP resource publication "Chemicals and Gender", as well as the GEF policy on gender mainstreaming will guide the process. Specific objectively verifiable indicators relevant to gender mainstreaming will be included in the results-based framework of the Project Document.

4 Risks. Indicate risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the project design (table format acceptable).

Risk	Risk reduction measure
PCB inventory is delayed or incomplete due to the absence of coordination, technical or economic difficulties, etc. (e.g. in carrying out sampling of dielectric oil)	The project intends to address this risk by establishing a strong supervisory mechanism supported by TORs. A national inventory team will be formed and trained. The national inventory team will be complemented with local regional teams. The composition of the national inventory team will include representatives of the NEA; Ministry of Environment, Climate Change, Water and Wildlife; main national utility company (NAWEC); academia; and NGOs.
Project resources are not sufficient to ensure disposal or decontamination of all PCB-containing equipment, or to achieve the reduction of open burning of municipal solid waste.	The project will allocate enough grant and secure co-financing resources to implement best practices to dispose or decontaminate 75 tonnes of PCB-containing equipment and strengthen municipal solid waste management resulting in U-POPs emission reductions of 35g I-TEQ/year. Based on the PCB inventory, the exact quantities will be estimated to verify that the allocated resources are adequate.
Interference by political authorities in the project management	The project aims to gain the support of municipalities, local authorities, and other units by building upon their existing capacities, ensuring two-way communication, and communicating the benefits that the project activities will provide to their respective constituencies.
Chemical accidents or spillage of PCBs during sampling, transport, storage, or disposal, where applicable	Training in best practices for each stage of the lifecycle management of PCBs will be conducted under the project and use of best practices enforced during the implementation phase of the project.
Delay of PCB disposal due to inefficient procurement procedures	TORs will be developed well in advance of related activities and the procurement process will be closely monitored to ensure that there are no delays.
Difficulties in enhancing the regulatory	The Government of the Gambia, by ratifying several MEAs

system within the project timeframe	including the Stockholm Convention, by developing its NIP (and currently undertaking NIP updating), and by formally applying for this project has already established strong pillars towards the sound management of chemicals. In this project, the Minister of Environment, Climate Change, Water and Wildlife and parliamentarians from the environmental select committee will be engaged as early as possible. Specific awareness raising events will be organized and targeted at them. The project will include the review of legislation to allow the inclusion of PCB- and U-POPs-specific provisions into the existing legislation. This is usually more efficient and results in a faster endorsement process compared to the drafting and adoption of new regulations. Having the Ministry of Justice lead the regulatory review has proven to be a best practice in other UNDP/GEF projects, as challenges are identified and addressed early on, rather than encountered during the approval endorsement phase.

5. Coordination. Outline the coordination with other relevant GEF-financed and other initiatives.

The proposed project will coordinate closely with the existing GEF-financed initiatives and heavily draw upon from other completed initiatives. Specifically, collaboration with the following initiatives is envisaged:

- The Gambia is currently updating its NIP with financial support from the GEF and UNEP as the implementing agency, under the project "Global Project on the Updating of National Implementation Plans for POPs".
- "Regional Demonstration of Effectiveness of Diversified, Environmentally Sound and Sustainable Interventions, and Strengthening National Capacity for Innovative Implementation of Integrated Vector Management (IVM) for Disease Prevention and Control in the WHO AFRO Region" will be implemented by UNEP. The project PPG is approved. Sound temporary storage is one of the areas for potential synergies with the proposed project.
- "Regional Disposal of Obsolete Pesticides including POPs and Strengthening Pesticide Management in the Permanent Interstate Committee for Drought Control in the Sahel (CILSS) Member States" will be implemented by FAO. The project is at the CEO endorsed stage. This project has high potential for synergies with the proposed project. For example, the skills developed in organization of inventory teams and inventory executions under the obsolete pesticides project will contribute to inventory activities under the proposed project. Skills developed for planning and construction of temporary storage will also be used.
- The Gambia has also endorsed the subregional project proposal submitted by UNDP to the GEF, "West Africa Healthcare Waste Management Improvement Project" (GEF ID # 9428), which, if approved, will cover U-POPs emissions related to health care waste management, as well as improved mercury management at health care facilities in the Gambia. In case of approval of that PIF, strong synergy and cooperation will be sought to ensure optimal complementarity between the two projects.
- This proposed project will closely coordinate on U-POPs, awareness raising, community-level training, and other relevant activities with the outputs of the "Building Capacity for Sustainable Waste Management for Coastal Communities through Women and Youth Livelihoods" project, which was executed by WasteAid UK with local partners including WIG. Under the project, inter alia, "The State of Solid Waste Management in The Gambia – a review" was prepared; a local waste training and entrepreneurship centre was established; and reprocessing technologies were developed.
- The proposed project will also closely coordinate with the Kanifing Municipal Council (KMC) project on the rehabilitation of the Bakoteh dump site to ensure synergies regarding the reduction of U-POPs. The project has not yet commenced and provides a significant opportunity to address the reduction of U-POPs on a large scale.
- The proposed project will benefit from outputs of projects executed by KMC, Project Lighthouse, and others such as the KMC area waste generation database. Coordination with these projects will be ensured to build on

the lessons learned and coordinate with any planned activities.

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, etc.

This project is fully consistent with the Gambia's 2009 National Implementation Plan on POPs including related action plans addressing PCBs; U-POPs; institutional and regulatory strengthening; information exchange and reporting; and public awareness, information dissemination, and training.

A comprehensive programme on the environment (and specifically chemicals management) will strongly support national development and serve as a catalyst for the achievement of the Sustainable Development Goals in the Gambia. If managed effectively, natural resources and the environment can make a vital contribution to development in the country, laying the foundation for sustainable jobs and economic growth and avoiding the country's reliance on foreign aid.

7. Knowledge Management. Outline the knowledge management approach for the project, including, if any, plans for the project to learn from other relevant projects and initiatives, to assess and document in a user-friendly form, and share these experiences and expertise with relevant stakeholders.

The project will build on existing experience gained in similar programmes/projects from the African region, as well as from other geographic areas covered by UNDP. UNDP has been implementing a number of projects with similar approaches regarding PCBs and reduction of U-POPs, for example, in Ghana (with UNITAR), Latvia, Kazakhstan, Kyrgyzstan, Jordan, Morocco, and Mexico; and is formulating new PCB projects in Turkey, Montenegro, Nigeria and other partner countries.

The project will also build on other UNDP projects funded by the GEF with close objectives or expected outcomes, such as the just competed Nigeria project on UPOPs emission reductions ("Less Burnt for a Clean Earth: Minimization of Dioxin Emission from Open Burning Sources", GEF project # 3804) or the project about to start on "Environmentally sound management of waste containing POPs and PTS in Kenya" (GEF project # 9109).

Information exchange between these initiatives is expected to take place via accumulated knowledge at UNDP Regional Hub (in Istanbul, Turkey), which provides technical oversight to ongoing UNDP PCB initiatives in the region and through engagement of qualified technical expertise that will be beneficial to the project in the Gambia. Involvement of other UN agencies working on chemicals and capacity building, as well as international NGOs specialized in combating chemical pollution, will be ensured so that the best quality of services can be provided to the Gambia and that experiences gained through this project are fully disseminated in Africa and beyond.

Stockholm Convention mechanisms such as the PCB Elimination Network (PEN) and participation in collective information events such as webinars organized by the BRS Secretariat will be utilised as knowledge management tools. At the national level, a PCB and U-POPs management website for sharing relevant information will be launched and maintained. Public access will be granted to all resources that are of public relevance such as project performance reports and guidance materials on the ESM of PCBs and reduction of U-POPs. User-friendly summaries and multimedia materials of the project activities will be uploaded on the website.

The Government of the Gambia, including all of the national stakeholders, will be the custodians of the data, information, guidance, and outputs generated under the project. National meetings on lessons learned will be held for each major milestone completed, such as inventory and database development, legislation review, and disposal activities.

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

A. RECORD OF ENDORSEMENT[16] 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)*
Mrs Ndey Sireng Bakurin	Executive Director; and GEF Operational Focal Point, The Gambia	NATIONAL ENVIRONMENT AGENCY OF THE GAMBIA	**06/30/2016**

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies[17] 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
Ms. Adriana Dinu, Executive Coordinator, UNDP - Global Environment Finance		07/22/2016	Mr. Jacques Van Engel	+1 (212) 906-5782	jacques.van.engel@undp.org

[16] 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.

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