



PROJECT IDENTIFICATION FORM (PIF)¹

PROJECT TYPE: Full-sized Project

TYPE OF TRUST FUND: GEF Trust Fund

PART I: PROJECT IDENTIFICATION

Project Title:	Environmentally sound management of municipal and hazardous solid waste to reduce emission of unintentional POPs		
Country(ies):	The Republic of Senegal	GEF Project ID: ²	4888
GEF Agency(ies):	UNIDO (select) (select)	GEF Agency Project ID:	100114 and 100103
Other Executing Partner(s):	Ministry of Environment and Protection of Nature - Directorate of Environment and Hazardous Facilities (DEEC)	Submission Date:	2012-08-15 Re-submission 2013-01-31
GEF Focal Area (s):	Persistent Organic Pollutants	Project Duration (Months)	60
Name of parent program (if applicable): ➤ For SFM/REDD+ <input type="checkbox"/>		Agency Fee (\$):	190,000

A. FOCAL AREA STRATEGY FRAMEWORK³:

Focal Area Objectives	Expected FA Outcomes	Expected FA Outputs	Trust Fund	Indicative Grant Amount (\$)	Indicative Co-financing (\$)
(select) CHEM-1	Outcome 1.3 POPs releases to the environment reduced.	Output 1.3.1 Action plans addressing unintentionally produced POPs under development and implementation.	GEFTF	1,720,000	7,200,000
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)	Others	Monitoring and Evaluation	GEFTF	100,000	400,000
Sub-Total				1,820,000	7,600,000
Project Management Cost ⁴			GEFTF	180,000	400,000
Total Project Cost				2,000,000	8,000,000

B. PROJECT FRAMEWORK

Project Objective: To reduce POPs releases from hazardous waste and municipal wastes by demonstrating BAT/BEP within the context of the implementation of the National Implementation Plan (NIP) under the Stockholm Convention as well as to enhance legislations and promote education and awareness pm chemical safety on POPs.

Project Component	Grant Type	Expected Outcomes	Expected Outputs	Trust Fund	Indicative Grant Amount (\$)	Indicative Cofinancing (\$)
1. Sound management of municipal and hazardous waste to establish controlled	Inv	Pilot demonstrations to reduce dioxin and furan emissions at selected dump sites as well as hazardous waste	1.1 Demonstrating BAT/BEP for municipal and hazardous waste management through establishing controlled	GEFTF	1,600,000	5,700,000

¹ It is very important to consult the PIF preparation guidelines when completing this template.

² Project ID number will be assigned by GEFSEC.

³ Refer to the reference attached on the [Focal Area Results Framework](#) when filling up the table in item A.

⁴ GEF will finance management cost that is solely linked to GEF financing of the project. PMC should be charged proportionately to focal areas based on focal area project grant amount.

landfills		<p>processes</p> <p>Mitigation of socio-economic impacts of the project's intervention on the existing and informal business activities</p>	<p>landfills and promoting recycling in two of the selected municipalities (Tivouane, Ziguinchor and Kaolack). Promoting sustainable waste management practices, introducing recycling practices, and increasing local expertise on management of controlled landfills by involving Association des Maires du Sénégal to anchor the capacities built to be replicated in other regions.</p> <p>1.2 Socio-economic impacts of the project intervention on private and informal sectors assessed, including recycling business plan assessment at PROPLAST</p> <p>1.3 Improvement of collection and environmentally sound management of Used Lead Acid Batteries at PAGRIK</p>			
2. Legal framework and chemical safety awareness	TA	Establishment of legislation framework and enhancement of chemical safety awareness	<p>2.1 Legal framework gap analyzed</p> <p>2.2 Legislations needed to address sound management of municipal and hazardous waste including those to better control unintentional POPs emission drafted and enacted</p> <p>2.3 Chemical safety awareness raising on adverse effects of toxics to which the informal and business sector workers could be exposed</p>	GEFTF	120,000	1,500,000
Monitoring and Evaluation	TA	Project successfully monitored and evaluated, which would be reflected back into the project implementation	<p>3.1 Project results monitored and reported</p> <p>3.2 Project evaluated according to the standards of the GEF</p>	GEFTF	100,000	400,000
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		

	(select)			(select)		
	(select)			(select)		
Sub-Total					1,820,000	7,600,000
Project Management Cost ⁵				GEFTF	180,000	400,000
Total Project Costs					2,000,000	8,000,000

C. INDICATIVE CO-FINANCING FOR THE PROJECT BY SOURCE AND BY NAME IF AVAILABLE, (\$)

Sources of Cofinancing	Name of Cofinancier	Type of Cofinancing	Amount (\$)
National Government	Ministry of Finance	Grant	1,500,000
National Government	Ministry of Environment	In-kind	4,000,000
GEF Agency	UNIDO	In-kind	50,000
Private Sector	PROPLAST and PAGRIK	In-kind	700,000
Local Government	Participating Municipalities	In-kind	700,000
Local Government	Participating Municipalities	Grant	600,000
Others	Bilateral cooperation	Grant	400,000
CSO	Association des Maires du Sénégal	In-kind	50,000
(select)		(select)	
(select)		(select)	
Total Cofinancing			8,000,000

D. GEF/LDCF/SCCF/NPIF RESOURCES REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY¹

GEF Agency	Type of Trust Fund	Focal Area	Country Name/Global	Grant Amount (a)	Agency Fee (b) ²	Total c=a+b
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)(select)	(select)				0
(select)	(select)(select)	(select)				0
(select)	(select)(select)	(select)				0
(select)	(select)(select)	(select)				0
(select)	(select)(select)	(select)				0
(select)	(select)(select)	(select)				0
Total Grant Resources				0	0	0

¹ In case of a single focal area, single country, single GEF Agency project, and single trust fund project, no need to provide information for this table

² Please indicate fees related to this project.

⁵ Same as footnote #3.

PART II: PROJECT JUSTIFICATION

A. DESCRIPTION OF THE CONSISTENCY OF THE PROJECT WITH:

A.1.1 the [GEF focal area/LDCF/SCCF](#) strategies /[NPIF](#) Initiative:

1. The proposed project is in line with the GEF5's focal area of CHEM-1 to phase out POPs and reduce POPs releases; Outcome 1.3: POPs releases to the environment reduced; Output 1.3.1 Action plans addressing un-intentionally produced POPs under development and implementation as well as sound chemicals management in general.

A.1.2. For projects funded from LDCF/SCCF: the LDCF/SCCF eligibility criteria and priorities:

n/a

A.1.3 For projects funded from NPIF, relevant eligibility criteria and priorities of the Fund:

n/a

A.2. national strategies and plans or reports and assessments under relevant conventions, if applicable, i.e. NAPAS, NAPs, NBSAPs, national communications, TNAs, NIPs, PRSPs, NPFE, etc.:

2. The proposal is consistent with the priorities identified in the Senegalese NIP: (i) strengthening of the POPs management-related legal and institutional framework; (ii) performing pilot demonstration projects for the environmentally sound management of POPs. The project focus on the open burning is also consistent with the Senegalese NIP where poor thermal disposal (open burning and poor incineration) was identified as the main factor of the unintentionally produced POPs (about 400 g TEQ/year).

B. PROJECT OVERVIEW:

B.1. Describe the baseline project and the problem that it seeks to address:

3. Senegal signed the Stockholm Convention on persistent organic pollutants (POPs) in May 2001 and ratified it in May 2003. Following that the country successfully formulated the National Implementation Plan (NIP), pursuant to Article 7 of the Convention with the technical assistance of UNIDO and submitted its NIP to the Convention in 2005. Based on indicative data, solid municipal waste management, healthcare waste management, open burning of agricultural residue and bush fires were identified as the main activities that release unintentionally produced POPs (uPOPs) in Senegal. The baseline of the uPOPs inventory in the country needs to be refined with the experience and knowledge so far gained by the nationals through various training workshops. The NIP also pointed out the shortage of qualified technical personnel for the management and analysis of POPs and their related waste, in addition to very poor national technical infrastructure, weak knowledge and very low awareness on POPs.

Baseline project

4. In order to establish a national enabling environment for the implementation of the Stockholm Convention, Senegal has implemented a number of national initiatives in addition to participating in various sub-regional projects in the field of POPs. Hence, the multisectoral committee that supervised the NIP development process was consolidated and upgraded to a National Commission for Chemicals Management. Senegal is participating in the following GEF funded projects: GEF/UNEP/UNIDO AFLDCs project on capacity strengthening and technical assistance to LDCs to implement the NIP; GEF/UNEP pilot demonstration project for the ESM of PCBs and their waste; GEF/UNDP pilot demonstration project on ESM of healthcare waste using non-combustion technology. The legal ban of the usage of POP pesticides has been decided and effort is ongoing to ensure effective enforcement of this regulation. Recently, some 500 tones of obsolete pesticides including POPs have been disposed of overseas. A national laboratory (LOCUSTOX) has been accredited for the analysis

of hazardous chemicals including POP pesticides and heavy metals and is collaborating with the Global Monitoring Programme on POPs.

5. Nevertheless there are still various barriers to sound chemicals management, vulnerable social groups and the environment as well as being heavily exposed to harmful emissions including uPOPs. The total PCDD/F emission from open burning identified in the NIP (2005) indicated 132 g-TEQ/y to the air and 264 g-TEQ/y in the residue in Dakar. It is estimated the most of the uPOPs emission was originated from the Mebubeuss dump site, the largest dump site in Dakar. There are about 2000 waste pickers including 500 children working at the dump site. Currently, International Development Association (IDA) and l'Agence Francaise Développement (AFD) are undertaking a bidding to select a company to install infrastructure to collect the biogas and treat leachate at the Mbeubeuss dump site. There are also three other major dump sites in the vicinity of Dakar that are currently targeted by the donor communities as the next project sites, namely, Kaolac, Ziguinchor, and Tivouane. EU is planning to improve the treatment of wastewater that is currently also dumped at the dump site in Tivouane. African Development Bank is reviewing the master plan for wastewater in Ziguinchor. JICA is now updating the master plan for wastewater and solid waste management infrastructures in Kaolac which will be complete in 2013.

6. In March 2008, 18 children under the age of five died in Senegal (Thiaroye-Sur-Mer) most likely caused by acute lead poisoning due to exposure to lead dust that originated from the open-burning based informal recycling and disposal of used lead acid batteries (ULABs). Some 40,000 people, in majority women and children, are at high risk as testing showed 300 children severely contaminated, with several having blood-lead level over 150 µg/dL, while the WHO states that any testing indicating a blood-lead level over 70 µg/dL in children is cause for the declaration of a medical emergency. PAGRIK, a recycling company, is now treating 500 tons of ULABs per month to recover lead. The Ministry of Environment has an on-going project to collect more ULABs that are indistritimnately disposed of. The lead recovery is a thermal process that could be emitting uPOPs. Assuming 275 tons of lead is being recovered every month. The emission factor for lead recovery ranges from 8 to 80 micro-g-TEQ / t-lead, and therefore the estimated uPOPs emission is 2.2 to 22 mg-TEQ. Although the emission reduction of uPOPs may seem small, collecting more ULABs will increase the uPOPs emission. The establishment of ESM for lead recovery process could also drastically improve the potential exposure of workers and neighbours to lead fumes from the recycling process.

- B. 2. [incremental /Additional cost reasoning](#): describe the incremental (GEF Trust Fund/NPIF) or additional (LDCF/SCCF) activities requested for GEF/LDCF/SCCF/NPIF financing and the associated [global environmental benefits](#) (GEF Trust Fund/NPIF) or associated adaptation benefits (LDCF/SCCF) to be delivered by the project:

7. Most of the GEF resources will be devoted to promoting BAT/BEP for sound management of municipal and hazardous waste to establish controlled landfills. This project will focus on the two mid-sized dump sites selected from Kaolac, Tivouane, and Ziguinchor. The two sites will be selected during the PPG phase considering the co-financing contribution commitment and other factors. The three sites have waste management master plans being reviewed by JICA, African Development Bank, and EU, respectively. This GEF project could contribute to, in part, the implementation of the master plan. The sustainability of the approach proposed by this project will be ensured by installing hard infrastructures without soft measures to anchor a permanent change in the local business practice. Municipalities of the selected sites and the Association des Maires du Sénégal will be involved to receive political support and ensure the replicability of the project's results in other regions.

8. Co-financing by the government will mainly fund the gap analysis of the legal framework needed to support the administrative and regulation part of the project intervention to improve the sound management of municipal and hazardous waste as well as mitigate socio-economic

impacts of the project activities on the waste pickers and informal recycling sectors. Co-financing also support awareness raising and education for those working at the dump site will help them improve their recycling activities.

9. PROPLAST is a plastic recycling company established offering employment opportunities to female workers. PROPLAST could contribute to scaling up its activities in restructuring the informal recycling sectors at the dump sites. The challenge the company faces is to close the loop of plastic materials in the country. The project could develop a process to use the plastic pellets that are currently exported back to Europe which assisted the establishment of this company. PAGRIK has established a lead recovery process from ULABs. The Ministry of Environment and Protection of Nature is planning to improve the ULABs collection/recycling ratio and PAGRIK needs to upgrade its capacities to meet the demands while ensuring the environmentally sound management of lead recycling as well as workers' safety. The project will help collect more ULABs and provide incentives to these companies to enhance their process capacities and reduce uPOPs emissions at the same time.

10. *Global benefits:* This project will reduce uPOPs emission from open burning at the dump sites and therefore assist Senegal to meet the mandates of the Stockholm Convention. The uPOPs emission in Dakar in 2005 has been estimated as 132 g-TEQ/y to the air and 264 g-TEQ/y in the residue. The enhanced sound management of municipal and hazardous waste management will eventually lead to the reduction of the uPOPs emission at the two mid-sized dump sites which could be replicated through out the country and the region.

11. *Local benefits:* The project will support the informal recycling sectors and people working at the selected dump sites by providing proper safety training as well as mitigation measures of the socio-economic impacts such as vocational training for those who are compelled to shift their income sources. Exposures to toxic fumes at the dump sites as well as lead recovering process at the ULABs recycling facilities.

B.3. Describe the socioeconomic benefits to be delivered by the Project at the national and local levels, including consideration of gender dimensions, and how these will support the achievement of global environment benefits (GEF Trust Fund/NPIF) or adaptation benefits (LDCF/SCCF). As a background information, read [Mainstreaming Gender at the GEF.](#)":

12. Improving waste management is quite relevant not only for the environmental protection, but also for public health and sanitation promotion. Vulnerable social groups involved in waste recycling include women and young people under poverty stress, who strongly rely on this activity to secure main or additional income. This project will upgrade waste recycling sites (dump site for municipal and hazardous wastes as well as used lead acid batteries). It will then enhance job opportunities both for women (Company PROPLAST in Thiès operated by women solely) and men (Company PAGRIK in Dakar) while reducing/eliminating exposure risk to uPOPs, lead, and other toxics. Training of workers (women and men) on selected project sites will lead to diversification of waste recycling concepts in the country, by then preventing much more hazardous waste from open-burning, source of uPOPs and harmful substances like lead. The interventions of the project will help alleviate social and economic degradation both for men and women in the sector of waste management. Gender analysis will be carried out to set proper indicators and goals.

B.4 Indicate risks, including climate change 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:

RISKS	RISK MITIGATION MEASURES	RANKING
Weakness of project coordination mechanism	Upon completion of the NIP development process, the coordinating mechanism that was set up has since been upgraded to a National Commission for Chemicals Management (NCCM) and funds are secured in the	Low

	national budget to ensure its regular functioning	
Weak replicability at national level from the implementation of related ongoing regional activities	Association des Maire du Sénégal will be involved to incorporate local customs and replicate the project's approach through the Association's network. Senegal also has been hosting the coordination team of the regional PCB project and has nominated a competent team of nationals to actively participate in the on-going GEF projects such as the UNIDO/UNEP AFLDCs in ECOWAS region. This ensures that the country learns as much as possible from these relevant projects in order to successfully implement the present one.	Low
Lack of co-financing from the municipalities involved in pilot demonstrations for cleaner hazardous waste management	From the early stage of the preparation of this project, the municipalities involved have been associated to the process for awareness raising and capacity building with regard to fund securing by them from bilateral donors. UNIDO has visited the country to firm up the co-finance commitment from both public and private sectors.	Medium
Weak commitment and participation of the private sector and grass root organizations	The NCCM is inclusive of the representative of the chamber of commerce and industry and the green NGOs involved in the field of waste management. Also the on-going project UNIDO/UNEP AFLDCs in ECOWAS will have trained nationals on making business in waste management. PROPLAST and PAGRIK have been visited and the co-financing concept has been explained.	Medium
Increase in methane emission from dump sites (climate change risk)	Emission reduction of uPOPs could be achieved by avoiding spontaneous combustion at the dump sites. However, methane in biogas produced from dump sites will increase when combustion is suppressed. The collection of biogas will be considered as a technical option and the price and benefits will be compared to see if biogas collection would make sense.	Medium

B.5. Identify key stakeholders involved in the project including the private sector, civil society organizations, local and indigenous communities, and their respective roles, as applicable:

13. The various stakeholders involved in the project are the following: (i) *Public sector*: Ministry of Environment and Protection of Nature (to oversee the project implementation within the NCCM); Ministry of Agriculture (to facilitate the replication of the technology for the disposal of large empty containers of pesticides in cooperation with the private sector); Ministry of Health (to facilitate the adaptation and replication of the sound technology for healthcare waste disposal); Ministry of Industry (to facilitate the participation of the selected industrial companies in waste recycling/disposal); Ministry of Planning (to facilitate the establishment of PPP); municipalities of Dakar, Thiès and Kaolac (to lead the local steering committee, coordinate the project activities at the selected municipal levels, and replicate the project's approach to other cities of the country through Association des Maire du Sénégal); SENECLIC/Le CHAT(to facilitate PPP in e-waste management); the University of Dakar (to facilitate the development and implementation of lectures on waste and contaminated sites management for undergraduate and post-graduate levels). (ii) *Private sector*: Company PAGRIK (Dakar) to participate in the PPP for the recycling of ULABs; Company PROPLAST (Thiès) to participate in the PPP for waste plastic recycling. These companies will provide technical expertise on recycling processes of lead and plastics. Such technical expertise is needed when informal sectors are reorganized to develop more formal recycling sectors. (iii)

Civil Society and NGOs: Association des Maire du Sénégal will be closely involved to anchor the project activities as sustainable practice and further replicate the project's approach to other cities of the country. The 1st Vice President of the Association is the mayor of Tivouane who has been briefed about this project by the UNIDO's delegation and expressed his support to speed up this project's implementation. PAN AFRICA (to participate in the survey on the method for the sound disposal of small empty pesticides containers, to contribute to the development and implementation of the programme on environmental training, education and communication on POPs and chemical safety); ENDA Ecopole (to contribute to the development and implementation of the programme on environmental training, education and communication on POPs and chemical safety). The finalisation of the identification of other relevant stakeholders, especially for co-financing, will be one of the activities during the project document preparation phase (PPG).

B.6. Outline the coordination with other related initiatives:

14. A GEF-funded projects (GEF ID: 4569) relevant to this project have been or are being implemented under the lead of the Directorate of Environment and Hazardous Facilities (DEEC) within the Ministry of Environment and Protection of Nature. It will be the case for this project. The coordinating role of the DEEC has facilitated the gathering of information for the PIF and will also ensure the sharing of lessons learned for the successful implementation of this project. Other interesting activities from the private sector or the side of NGOs are undertaken in close co-operation with the DEEC. Relevant projects implemented in Senegal are the following: (i) the GEF/UNIDO/UNEP AFLDCs capacity strengthening project (GEF ID: 3969); (ii) the GEF/UNEP sub regional pilot project on the management of PCBs (GEF ID:2770); (iii) the GEF/UNDP demonstration project on BAT/BEP in healthcare waste sound disposal (GEF ID: 1802) (iv) the GEF/FAO project on the reduction of the reliance of farmers on the use of synthetic chemical pesticides (GEF ID: 4740); (v) the GEF/UNEP project on Global Monitoring Plan (GEF ID: 3674) to assess POPs levels in core matrices (ambient air, breast milk, and human blood). The National Commission for Chemicals Management is the governing body of chemicals-related activities in the country and will also be overseeing the implementation of this project.

C. DESCRIBE THE GEF AGENCY'S COMPARATIVE ADVANTAGE TO IMPLEMENT THIS PROJECT:

15. UNIDO's comparative advantage is working with industries related to technical assistance and capacity building including environmentally sound management and disposal of POPs waste, introduction of BAT/BEP to industrial sector mentioned in Annex 5 of the Stockholm Convention, management of contaminated sites, and development and implementation of the NIPs. UNIDO also has cleaner production and e-waste management, and therefore the treatment of lead acid batteries is within the UNIDO's expertise. This project fits the UNIDO's focus and thematic areas.

C.1 Indicate the co-financing amount the GEF agency is bringing to the project:

16. US\$ 50,000 in-kind will be provided by UNIDO which has several on-going projects in the country in the area of the sound management of mercury, Montreal Protocol and private sector development. The capacities developed in these projects will be offered for this project implementation and monitoring.

C.2 How does the project fit into the GEF agency's program (reflected in documents such as UNDAF, CAS, etc.) and staff capacity in the country to follow up project implementation:


17. UNIDO currently supports capacity building and technical transfer in the area of (i)Energy & Environment, (ii)Trade, and (iii)Poverty Reduction. The UNIDO's field office is located in the country which will assist the project management, monitoring, and evaluation of the project. Therefore, this project matches the UNIDO's thematic program areas and the implementation will be well supported by its headquarters and field staff.

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

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the [Operational Focal Point endorsement letter\(s\)](#) with this template. For SGP, use this [OFP endorsement letter](#)).

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
Mr. Ndiaye Cheikh Sylla	Political/Operational Focal Point	MINISTRY OF ENVIRONMENT	01/04/2012

C. GEF AGENCY(IES) CERTIFICATION

UNIDO GEF Focal Point	Signature	Date	Project Contact Person	Telephone	Email Address
Mr. Dmitri Piskounov, Managing Director PTC, UNIDO GEF Focal Point		08/15/2012	Mr. Fukuya IINO	+431 26026 5218	f.iino@unido.org