



PROJECT IDENTIFICATION FORM (PIF)¹

PROJECT TYPE: Full-sized Project

TYPE OF TRUST FUND: GEF Trust Fund

PART I: PROJECT IDENTIFICATION

Project Title:	POPs Legacy Elimination and POPs Release Reduction Project		
Country(ies):	Republic of Turkey	GEF Project ID: ²	4601
GEF Agency(ies):	UNDP UNIDO (select)	GEF Agency Project ID:	4833 (UNDP) GFTURXX11 (UNIDO)
Other Executing Partner(s):	Ministry of Environment and Urbanization (MoEU)	Submission Date:	2012-08-17
GEF Focal Area (s):	Persistent Organic Pollutants	Project Duration (Months)	36 months
Name of parent program (if applicable): ➤ For SFM/REDD+ <input type="checkbox"/>		Agency Fee (\$):	973,350

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.	Indicator 1.3 Amount of unintentionally produced POPs releases avoided or reduced from industrial and non-industrial sectors; measured in grams TEQ against baseline as recorded through the POPs tracking tool.	GEFTF	2,000,000	10,000,000
(select) CHEM-1	Outcome 1.4. POPs waste prevented, managed, and disposed of, and POPs contaminated sites managed in an environmentally sound manner.	Indicator 1.4.1 Amount of PCBs and PCB-related wastes disposed of, or decontaminated; measured in tons as recorded in the POPs tracking tool. Indicator 1.4.2 Amount of obsolete pesticides, including POPs, disposed of in an environmentally sound manner; measured in tons.	GEFTF	7,700,000	30,200,000
(select) CHEM-1	Outcome 1.5: Country capacity built to effectively phase out and reduce releases of POPs.	Indicator 1.5.1 Progress in development or update of NIPs as recorded through the POPs tracking tool. Indicator 1.5.2 Progress in developing and implementing a legislative and regulatory framework for environmentally sound management of POPs, and for the sound management of	GEFTF	605,000	2,100,880

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.

		chemicals in general, as recorded in the POPs tracking tool.			
(select)	(select)		(select)		
(select)	(select)		(select)		
(select)	(select)		(select)		
(select)	(select)		(select)		
(select)	(select)		(select)		
(select)	(select)		(select)		
(select)	(select)	Others	(select)		
Sub-Total				10,305,000	42,300,880
Project Management Cost ⁴			GEFTF	510,000	510,000
Total Project Cost				10,815,000	42,810,880

B. PROJECT FRAMEWORK

Project Objective: Protection of health and environment through elimination current POPs legacies, ensure longer term capacity to manage POPs into the future consistent with international practice and standards, and integrate POPs activities with national sound chemicals management initiatives.

Project Component	Grant Type	Expected Outcomes	Expected Outputs	Trust Fund	Indicative Grant Amount (\$)	Indicative Cofinancing (\$)
1 Elimination of Current POPs Stockpiles/Wastes	TA	<p>Outcome 1.1: Elimination and clean up of remaining POPs pesticide stockpile storage site</p> <p>Outcome 1.2: Elimination of high concentration PCBs and PCB contaminated equipment stockpiles and retiring equipment.</p> <p>Outcome 1.3: Qualification of existing national POPs destruction facilities</p>	<p>1.1.1: Securing the Merkim 2,500 m2 storage site to prevent further HCH release, packaging, transport and environmentally sound destruction of up to 3,000 t of HCH from the Merkim site, and Merkim site clean up to a standard for future appropriate development/use</p> <p>1.2.1: Packaging, transport and environmentally sound destruction of up to 200 t of high concentration PCBs and PCB containing equipment.</p> <p>1.3.1: Test burn on representative POPs at Izaydas incineration facility to demonstrate DE/DRE compliance with BAT/BEP and incineration upgrading to handle POPs waste</p>	GEFTF	5,000,000	17,000,000
2.Planning/Capacity Building for Environmentally Sound Management of Future PCB Stockpiles	TA	<p>Outcome 2.1: Implementation of national PCB regulations</p> <p>Outcome 2.2: Identification of low</p>	<p>2.1.1: Maintained inventory of in-service/out of service PCB containing equipment that controls and tracks PCB remaining in the country inclusive of registration/ labeling and</p>	GEFTF	1,700,000	7,000,000

⁴ GEF will finance management cost that is solely linked to GEF financing of the project.

		<p>concentration and cross contamination in electrical equipment.</p> <p>Outcome 2.3: Development/adoption of a National PCB Equipment Phase out/Retirement Plan</p> <p>Outcome 2.4: Development of physical capacity to capture, store and monitor retiring PCB equipment</p> <p>Outcome 2.5: Determination of the feasibility of using decontamination technology for PCB contaminated transformers remaining in service and demonstrating it on a pilot basis.</p>	<p>status reporting.</p> <p>2.2.1: Definition of low concentration and cross contamination in operating transformers based on screening analysis and laboratory confirmation applied to a statistically significant sample of electrical equipment.</p> <p>2.3.1: Adopted/implemented National PCB Phase Out Plan covering the scheduled phase out/retirement/disposal of remaining PCB containing equipment.</p> <p>2.4.1: Designated and permitted secure retired PCB equipment storage facilities and service providers including applicable regulatory standards.</p> <p>2.5.1: Feasibility determination and demonstration of operational capability for applying commercially available low concentration decontamination processes for application to in-service transformers .</p>			
3. Unintended POPs Release Reduction	TA	<p>Outcome 3.1: Development of an updated/expanded national PCDD/F and PCB release inventory</p> <p>Outcome 3.2: Determination of source and technology specific U-POPs emissions</p> <p>Outcome 3.3: Provision of training and technical assistance on BAT/BET for priority industrial sectors</p> <p>Outcome 3.4: Development of a U-POPs Release Reduction Plan</p> <p>Outcome 3.5</p>	<p>3.1.1: Updated national PCDD/F release inventory</p> <p>3.2.1 Priority industrial sector local ambient data base developed/maintained and emission factors determined for at least 3 major industrial sectors.</p> <p>3.3.1: 50 trained technical professionals in BAT/BEP in priority industrial sectors and 10 BAT/BEP assessments undertaken in priority enterprises.</p> <p>3.4.1: Adopted unintended release reduction Action Plan integrated with implementation of EU IPPC policy</p> <p>3.5 1: BAT and BEP effectively implemented in at least 3 industrial source sectors.</p>	GEFTF	2,000,000	10,000,000

		Demonstration of BAT and BEP in industrial priority source categories				
4. Management Capacity for POPs Contaminated Sites	TA	<p>Outcome 4.1 Development of a POPs contaminated sites inventory and policy</p> <p>Outcome 4.2: Development and adoption of soil and water POPs concentration standards</p> <p>Outcome 4.3: Undertaking training/capacity building for site assessment and remediation technology</p> <p>Outcome 4.4: Implementation of pilot priority site assessments and /cleanup designs and priority containment/cleanup action</p>	<p>4.1.1: Prioritized national POPs contaminated sites inventory with framework of a national contaminated sites policy inclusive of registration, prioritization, reporting care/custody and liability assignment for POPs.</p> <p>4.2.1: Supporting regulations and standards covering trigger action and define future land use cleanup level requirements for POPs contamination in soil and water. reporting, care/custody and liability assignment for POPs contaminated sites.</p> <p>4.3.1: Training of 25 technical and regulatory professionals on site assessment and remediation technology.</p> <p>4.4.1: 10 demonstration site assessments and clean up designs and 3 remediation projects initiated.</p>	GEFTF	1,000,000	6,000,000
5. Institutional/Regulatory Capacity Strengthening for POPs and Sound Chemicals Management	TA	<p>Outcome 5.1: Legislative framework updated consistent with Convention obligations adopted.</p> <p>Outcome 5.2: Expanded operational POPs monitory and supporting certified analytical capability,</p> <p>Outcome 5.3: Integration of POPs into national sound chemicals management framework</p> <p>Outcome 5.4: Delivery of sound chemicals management awareness and training</p> <p>Outcome 5.5: Implementation of</p>	<p>5.1.1: POPs Regulative instruments developed and consulted on.</p> <p>5.2.1: 3 accredited POPs laboratory service providers for regulatory and commercial requirements and development of a national POPs monitoring program</p> <p>5.3.1: Inclusion of POPs in sound chemicals management programs within the SAICM framework and documentation, specifically the National Chemicals Profile and developing PRTR.</p> <p>5.4.1 10 training/awareness events on POPs and sound chemicals management for institutional and industrial stakeholders.</p> <p>5.5.1: 20 public awareness</p>	GEFTF	505,000	2,000,880

		general POPs/Chemicals public awareness programs	products related to POPs and sound chemicals management for institutional and industrial stakeholders			
6. Monitoring and Evaluation (M&E); knowledge sharing and learning	TA	Monitoring and evaluation; knowledge sharing and info dissemination	6.1 Monitoring, evaluation and impact assessment 6.2 Knowledge sharing and post-project action plan	GEFTF	100,000	300,000
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
Sub-Total					10,305,000	42,300,880
				Project Management Cost ⁵	GEFTF	510,000
				Total Project Costs		10,815,000
						42,810,880

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	MoEU/other Agencies	Grant	4,507,880
National Government	MoEU/other Agencies	In-kind	528,000
Bilateral Aid Agency (ies)	European Commission/EU member states	(select)	14,040,000
GEF Agency	UNDP/UNIDO	Grant	120,000
GEF Agency	UNDP/UNIDO	In-kind	250,000
Private Sector	Merkim A.S.	Grant	832,591
Private Sector	Electrical equipment owners eliminating/decontaminating PCB containing equipment.	Grant	14,865,000
Private Sector	Enterprises participating in U-POPs reduction and contaminated site assessment	Grant	6,500,000
Private Sector	Merkim A.S.	In-kind	1,167,409
(select)		(select)	
Total Cofinancing			42,810,880

D. GEF/LDCF/SCCF 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
UNDP	GEF TF	Persistent Organic Pollutants	Turkey	7,115,000	640,350	7,755,350
UNIDO	GEF TF	Persistent Organic Pollutants	Turkey	3,700,000	333,000	4,033,000
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0

⁵ Same as footnote #3.

Total Grant Resources	10,815,000	973,350	11,788,350
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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.

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:

The project is fully consistent with the GEF-5 Chemicals focal area strategy, its Objective CHEM-1 (Phase out POPs and reduce POPs releases), and its corresponding outcomes 1.3 (POPs releases to the environment reduced and outcome, Outcome 1.4 (POPs waste prevented, managed, and disposed of, and POPs contaminated sites managed in an environmentally sound manner) and 1.5 (country capacity built to effectively phase out and reduce releases of POPs). The project will contribute to the achievement of GEF's main outcomes and indicators under this strategic programming area as follows:

Relevant GEF-5 Strategy Outcome/Indicator	Project's contribution
<u>Outcome 1.3/Indicator 1.3.1</u> Amount of un-intentionally produced POPs releases avoided or reduced from industrial and non-industrial sectors; measured in grams TEQ against baseline as recorded through the POPs tracking tool.	The project (Component 3) will support the updating and refinement of the national U-POPs release inventory with specific emphasis on PCDD/F but extending to PCBs and HCH. This will cover priority sector ambient and source monitoring, and development of source and technology specific emission factors. A baseline will be established against which future reductions can be measured and reported consistent with Convention obligations and information exchange practice. Additionally, it will undertake BAT/BEP assessments utilizing Convention and EC IPPC guidance methodologies. The overall result will be an Action Plan for U-POPs reduction including targeted investment plans and development of financing mechanisms for achievement of progressive reductions. The amount of U-POPs reduced by the project will be estimated during the PPG stage.
<u>Outcome 1.4</u> POPs waste prevented, managed, and disposed of, and POPs contaminated sites managed in an environmentally sound manner.	The project (Components 1) is directed to addressing the elimination of remaining readily accessible POPs wastes in the country and in Components 2 and 4 strengthening its institutional and technical capacity to address the continuing issues associated with environmentally sound management and disposal of POPs waste potentially generated in the future (specifically PCB contaminated transformer oil - Component 2) and POPs contaminated sites (Component 4) including in both cases initiation of POPs elimination.
<u>Indicator 1.4.1</u> Amount of PCBs and PCB-related wastes disposed of, or decontaminated, measured in tons as recorded in the POPs tracking tool.	The project in Component 1 will complete environmentally sound disposal of at least 200 t of high content PCBs and PCB related wastes. Component 2 develops a maintained inventory offering on-going tracking capability and a comprehensive PCB Phase Out Plan covering all with all remaining such PCBs both high content and low content contaminated equipment. Component 1 will include the qualification of a national destruction facility capable of undertaking such disposal on a commercial basis both in Turkey and potentially regionally. Component 2 will determine the feasibility of applying commercial lower level dielectric oil decontamination technology in the country and support the pilot demonstration decontamination of contaminated dielectric oil on a commercial basis.
<u>Indicator 1.4.2</u> Amount of obsolete pesticides, including POPs, disposed of in an environmentally sound manner; measured in tons.	The project in Component 1 will complete the environmentally sound disposal of up to 3,000 t of HCH and HCH contaminated materials currently stockpiled in a sub-standard storage facility and representing a significant threat of continuing release general and expanding local site contamination. This will include the cleanup of the site to a

Relevant GEF-5 Strategy Outcome/Indicator	Project's contribution
	standard consistent with future productive land use.
<u>Outcome 1.5</u> Country capacity built to effectively phase out and reduce releases of POPs.	The project's overall design is based on addressing the countries immediate priorities of completing elimination of accessible POPs waste legacies, and ensuring that the institutional, regulatory, and technical tools are in place to eliminate future POPs wastes that are generated and reduce releases as the country develops industrially.
<u>Indicator 1.5.1</u> Progress in developing and implementing a legislative and regulatory framework for environmentally sound management of POPs, and for the sound management of chemicals in general, as recorded in the POPs tracking tool.	Component 5 of the project is specifically directed to completing the implementation of the legislative and regulatory framework based on maintaining Convention compliance utilizing EU standards and practice where applicable. This work will be fully integrated with and contribute to development of national policy and programs on sound chemicals management within the SAICM framework generally, and specifically in areas such as development of the National Chemicals profile and a PRTR.

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

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

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.:

Turkey signed the Stockholm Convention on May 22, 2001 and ratified it under national legislation that became effective January 12, 2010. Turkey is also a Party to the Basel Convention having ratified this convention in 1994 as well as the Ban Amendment in 2003. Additionally, Turkey has signed and is preparing for ratification of the Rotterdam Convention on Prior Informed Consent. It is also active in the INC process leading to a global convention on mercury.

The principle national plan directly pertinent to this project is the Stockholm Convention NIP that was developed in the 2004-2007 period, issued and adopted by MoEU in 2008 as the basis of a national program to addressing priority POPs issues, revised with additional data in 2010 and formally submitted to the Convention Secretariat in April 2011. The priority POPS issues identified in the NIP and addressed by the project are: i) elimination of POPs pesticide stockpiles, specifically lindane stockpiles, ii) completing the elimination of PCB stockpiles and undertaking a PCB phase out plan; iii) addressing U-POPs release reduction through implementation of BAT/BEP; iv) identification and clean up of POPs contaminated sites, and v) strengthening national capacity to address POPs. The NIP itself is an integrated part of two broader public policy initiatives, namely expanding the implementation of sound chemicals management and the harmonization of national environmental policy, legislation and regulation with that of the EU.

B. PROJECT OVERVIEW:

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

Country Context and Background

Turkey is a rapidly industrializing developing country straddling Europe and the Middle East. It has the largest economy in the Middle East with global reach and particularly in Europe, the Middle East, Black Sea region and Central Asia. Within the foreseeable future it hopes to be graduating in terms of being a beneficiary of international assistance and become a donor country.

This evolution of national development essentially frames the country's national policy and priorities in terms of addressing environmental issues generally and particularly issues associated with chemicals management and POPs. It also provides the basic rationale behind the GEF project being proposed, namely to use the project to accelerate its progress in this area such that it is equivalent to that of other major developed countries, particularly in Europe.

The factual basis for Turkey's approach to the POPs issue is its NIP which defines the baseline situation in terms of POPs legacies and priorities related to on-going management of POPs issues. It demonstrates that like most comparable countries, POPs, while never produced in the country, were widely used particularly in the form of POPs pesticides (DDT, HCB, HCH) and PCBs primarily in imported electrical equipment. Similarly, the accelerated industrialization in the country results in a wide range of sources for unintended releases of POPs (U-POPs), particularly PCDD/F but also PCBs and potentially other POPs. However, Turkey generally responded to the increasing awareness of the risks associated with these substances in the same time frames as most developed countries by banning their import and new uses. In addition, it also initiated action on eliminating legacies after 2001 when it became a signatory to the Stockholm Convention, although this was substantially accelerated after 2007 with the preparation of the NIP and its adoption by MoEU as the basis for priority regulatory action.

The following summarizes the current situation based on the results of the NIP, updated to the present, including identification of progress from 2008 onwards in its implementation, and what would be anticipated in the absence of GEF intervention.

1. POPs waste disposal and qualification of domestic destruction capacity

1(a) POPs Pesticide Stockpiles and Waste: The country's situation is generally well advanced with respect to addressing POPs pesticides. Their application and import was banned in the 1970s and 1980s. In 2008, a small stockpile of old DDT (approximately 11 t) was reported held by the Ministry of Agriculture and Rural Affairs but this has since been disposed of as part of the NIP implementation program. The only remaining major POPs pesticide stockpile that was identified in the NIP was approximately 2,900 t of lindane (γ -HCH) held by a private chemical distributor (Merkim Kimiya Inc.) at a storage warehouse near Kocaeli. The poor condition of this storage, potential for ongoing releases, and its close proximity to other commercial activities and the Marmara Sea make the elimination of this stockpile an urgent priority.

1(b) High Concentration PCBs and PCB Contaminated Equipment: A preliminary inventory of PCBs either in the form of stockpiled out of service equipment and oils, and PCB containing equipment remaining in service was developed in the NIP, primarily with respect to that found in the national electrical utilities and major private sector enterprises. In general it is apparent that substantial amounts of PCB based electrical equipment were at one time used but since 2001, much of this has been retired and disposed of. Approximately 19,000 t of PCBs (equipment and oil) had been disposed of primarily by export to Western Europe (15,000 t), and 4,000 t destroyed at a domestic hazardous waste incineration facility. In 2010 data from the three main utilities indicated that there are 2,145 capacitors in-service, off line or held as replacements and only 6 PCB transformers remaining in service and 6 stockpiled awaiting disposal. These utilities have expressed interest in working with a GEF project to complete elimination of PCB equipment from their systems during the project period. As a general conclusion, it appears that the country has been gradually investing into re-packaging and elimination of the bulk of its identified PCB based equipment. However, a relatively small amount remains, primarily in the private sector. Estimates of this remaining inventory are uncertain and require full implementation of national registration regulations, but it is generally assumed to be of the order of at least 200 t remaining.

1(c) National POPs Disposal Capacity: Turkey has one fully commercial integrated hazardous waste management complex (İZAYDAŞ at Izmit) that generally meets international standards and guidelines, including those of the Basel Convention as adopted by the Stockholm Convention and the EU. It consists of a 35,000 t/year rotary kiln incineration unit equipped with a current technology off gas treatment and monitoring system, and residuals management capability in the form of a hazardous waste engineered landfill, as well as supporting laboratory capability and medical waste sterilization capability. This facility is understood to have disposed of PCBs and obsolete pesticides in the past and can nominally meet international PCDD/F emission standards, although this currently is not a market being pursued. However, it has not been formally qualified in terms of POPs destruction efficiency, environmental performance and international BAT/BEP standards generally. Similarly it may have some relatively minor infrastructure limitations in respect to handling segregated POPs waste streams. A second incineration plant with a capacity of 17,000 t/year is operated by PETKİM A.Ş. as part of its petrochemical complex but requires assessment as to its suitability for POPs disposal.

2. Lower Concentration PCB Contaminated Equipment: There is the possibility that draining and retro-filling PCB transformers may have occurred historically with this equipment remaining in service. Similarly the possibility of cross contamination of non-PCB transformers may have occurred during maintenance. While the limited sampling programs and information from major electrical utilities has not identified any such contamination, this has been identified as an area for further investigation and potentially initiation of a decontamination program that could be an alternative to accelerated equipment retirement. Similarly, there is an absence of information on the disposition of the transformers associated with the large quantity of PCBs reported already destroyed and possibility that an inventory of retro-filled transformers in service could exist. At present no coordinated plan is in place to evaluate the situation and address it. Doing so within a reasonable time frame would require external assistance.

3. Unintentional POPs Releases: The current U-POPs inventory for PCDD/F developed in the original NIP (applicable to the 2004-2006 period) and, based on application of the UNEP Chemical Standard Tool Kit, a national annual release level of 2,162 g TEQ (emission into air, water and soil) was estimated with air being the main medium. The largest sector for air release is ferrous and non-ferrous metal production (624.7 g TEQ/year) with over half coming from copper production and a quarter from iron and steel production. Other significant major contributors are the production of mineral products, primarily cement kilns (245.6 g TEQ/year), power generation or heating (143.3 g TEQ/year), uncontrolled combustion process (151 g TEQ/year), waste incineration (62.8 g TEQ/year) and transport (21.5 g TEQ/year). Main releases via solids originate from the metal industry mainly in ashes (675.4 g TEQ/year). One specific relatively small but potentially locally significant source of PCDD/F emissions to both air and solid noted but not quantified is that generated by household coal use which is common in some parts of the country and could also involve mercury, other organic hydrocarbon and particulate emissions having local health impacts. No inventory data is available for unintended release of other POPs although PCBs and HCH emissions are identified for future investigation. In particular elevated levels of PCB in ambient air in areas where waste oil was used as a heating fuel in intensive green house operations has been identified for further investigation. Overall, the current U-POPs inventory is out of date and does not reflect recent developments in the country's industrial development.

4. POPs Contaminated Sites: To date limited information has been collected on potential POPs contaminated sites although the NIP identifies several locations as well as generic types of sites that may have POPs contamination and which should be subject to investigation. This included the former storage sites for DDT and PCB containing equipment and locations where hazardous wastes were dumped historically. Information need to be collected on sites associated with electrical equipment servicing and dismantling enterprises, and large sub-stations where equipment may have been serviced on site. In terms of a regulatory framework for addressing contaminated sites generally and POPs contaminated sites in particular, the government has made an initial regulatory step by enactment of a by-law on their management in 2010. This governs procedures for the evaluation of

soil contamination along with associated water and air releases for a variety of priority pollutants, including all of the original POPs covered by the Convention as well as HCH.

5. Institutional/ Regulatory Capacity Strengthening for POPs and Sound Chemicals Management

5.1./5.3. Legal and Regulatory Framework for POPs/ Integration of POPs into national sound chemicals management framework:

Turkey has a generally well developed legal, regulatory and technical standards framework for addressing chemicals and waste management noting that an explicit legal and regulatory basis for assumption of all obligations under the Convention is required. However, there are enforcement gaps with regard to PCB control and limited directed emphasis on U-POPs releases in the legislation as well as poor integration of POPs issues into sound chemical management framework.

5.2 POPs Analytical and Monitoring Capacity: Turkey has internationally accredited laboratory analysis capability for PCBs and pesticides in government regulatory laboratories and research institutions but this is limited for commercial service providers. The NIP notes a general need to upgrade methods and expand accreditation to adequately provide the level of capability needed for the more intensive analytical requirements imposed by current and contemplated regulations for PCBs, contaminated soils, expanded source and ambient air monitoring, and general chemicals management.

5.4./5.5. Public Awareness and Information Exchange/Trainings: While MoEU has maintained a basic public awareness program related to POPs/Chemicals management and targeted initiatives for industrial and institutional stakeholders, there is recognition that this needs to be expanded to a level consistent with European practice including increased NGO involvement. Similarly, now that the country is a Party to the Convention it needs to expand its role in international information exchange, including active participation in Convention interactions and information reporting.

Barriers

Notwithstanding the progress Turkey has made on the issue, a number of barriers remain to the country achieving its objective of managing the POPs issue at the level of a fully developed country and being fully harmonized in this regard with European requirements and practice. These are:

- i) Financial barriers primarily associated with assembling sufficient financing to rapidly address the remaining POPs legacies, particularly those associated with a large remnant POPs pesticide stockpile, incentivizing the rapid retirement of PCB based equipment remaining in service, expanding service provider capability for handling, storage, treatment and disposal of POPs wastes, and application of BAT/BEP to reduce U-POPs releases;
- ii) Technical capacity barriers exist, largely associated with developing and implementing the institutional, technical, and commercial expertise necessary to apply modern management tools and technologies in areas such as PCB contaminated oil decontaminated, application of BEP to reduce U-POPs releases, undertaking risk based contaminated site assessment and applying cleanup standards;
- iii) Policy and regulatory implementation barriers associated with the practical implementation of detailed regulations on a national scale and establishing long term action plans, particularly for residual PCB contaminated equipment phase out and implementation of an IPPC approach to U-POPs release reduction and avoidance; and
- iv) Information and awareness barriers created by the limited understanding and awareness of both public and industrial stakeholders related to POPs and chemicals management that constrain the rate of implementing comprehensive programs. Specific knowledge gaps remain related to the extent of lower level PCB contamination of in-service non-PCB dielectric oil, and the number and severity of POPs contaminated sites.

Project Strategy and Design

The above country context and identification of current barriers frames a strategy for addressing POPs and more generally chemicals management that this project adopts in its project objective and overall structure summarized in the Project Framework above. Turkey recognizes its status as a rapidly developing country that is approaching a position of assuming full sovereign responsibility for this issue and is adopting a strategy of using this project to leverage national resources to so position itself. It fully recognizes the primary need to address the Convention's global objective of protecting health and environment and that the most immediate global impact will be achieved by eliminating the remaining accessible high concentration POPs legacies in the country. GEF assistance will be critical in achieving this rapidly over the next several years. It also sees this as a key opportunity to ensure that the country has the institutional, regulatory and technical tools are available to manage on-going POPs issues into the future, consistent with developed country practices.

The following elaborates on the project structure and its five component design by outcome and indicative activities:

Component 1: Elimination of Current POPs Stockpiles/Wastes

Outcome 1.1: Elimination and clean up of remaining POPs pesticide stockpile storage site

Activities:

- Undertake site assessment of contamination around the Merkim HCH storage warehouse complex
- Secure 2,500 m² of sub-standard warehouse storage to prevent further release of HCH.
- Package up to 3,000 t of HCH and HCH contaminated wastes in secure containers suitable for transport and Environmental sound disposal.
- Environmental sound disposal of up to 3,000 t of HCH at commercially available disposal facilities in accordance with internationally accepted destruction efficiency criteria (99.99%).
- Clean up of the Merkin site such that it is suitable for future commercial/industrial land use and redevelopment.

Outcome 1.2: Elimination of high concentration PCBs/ PCB contaminated equipment stockpiles and retiring equipment.

Activities:

- Development and implementation of an early retirement incentive program for operators of PCB based electrical equipment
- Secure packaging, transport and environmentally sound destruction of an estimated at least 200 t of stockpiled PCBs and PCB containing equipment commercially available disposal facilities in accordance with internationally accepted destruction efficiency criteria (99.99%).

Outcome 1.3: Qualification of existing national POPs destruction facilities

Activities:

- Environmental performance and operational assessment of the Izaydas incineration plant hazardous waste management facility (based on Convention/IPPC BREF BAT/BEP evaluation).
- Development and implementation of a test burn protocol to demonstrate internationally accepted environmental performance, specifically destruction efficiency criteria (99.99%) on HCH and PCBs at the Izaydas incineration plant.
- Addition of additional materials handling capability for solid POPs wastes.
- Technical assistance related to further emission reduction, monitoring and exploring possibilities for providing disposal services on regional basis.

Component 2. Planning/Capacity Building for Environmentally Sound Management of Future PCB Stockpiles

Outcome 2.1: Implementation of national PCB regulations

Activities:

- Comprehensive dissemination of PCB regulations to holders of electrical equipment potentially containing PCBs
- Develop and issue online compliance instructions for PCB equipment holders.

- Hold workshops for holders of potential PCB containing equipment the regulations and identification of PCB containing equipment.
- Data collection on PCB containing equipment based on nameplate data
- Registration and labelling of PCB containing equipment (based on nameplate data unless demonstrated otherwise).
- Screening/analysis of equipment (transformers) that are disputed as to PCB content
- Update national inventory and implementation of a POPs tracking tool.

Outcome 2.2: Identification of low concentration and cross contamination in electrical equipment

Activities:

- Assessment of : i) historical data on the disposition of transformer equipment from which PCB based dielectric oil was drained; and ii) name plate discrepancies from regulatory registration to locate any retro-filled units remaining in service.
- Undertake a screening assessment of a statistically valid distribution of non-PCB transformers in service to determine the possible presence of cross contamination.
- Develop an inventory and data base of transformers containing PCB transformers inclusive of PCB concentration, age and estimated remaining service life, and estimated replacement cost.
- Jointly with holders of equipment undertake an economic assessment of potential options including decontamination of the equipment for continued service, retirement and replacement, and retention in service as is until the end of service life or as required to be retired under national regulations or the Convention.

Outcome 2.3: Development/adoption of a National PCB Equipment Phase out/Retirement Plan

Activities

- Development of a Plan for the elimination of registered PCB containing equipment in service inclusive of equipment specific retirement schedules consistent with or in advance of convention obligations.
- Elaboration of supporting regulatory requirements governing holders obligations with respect to secure storage, labelling and ultimately environmentally sound disposal as well as assignment of financial liabilities all in accordance with the Plan
- Adoption and implementation of the Plan.

Outcome 2.4: Development of physical capacity to capture, store and monitor retiring PCB equipment

Activities:

- Development/adoption of technical standards for secure storage, transport and disposal for PCBs and PCB containing equipment.
- Identification, development and permitting of designated facilities for the secure storage and potentially hosting the decontamination of PCB containing equipment.

Outcome 2.5: Determination of the feasibility of using decontamination technology for PCB contaminated transformers remaining in service

Activities:

- Undertake identification of candidate commercial technologies available for decontamination of PCB contaminated dielectric oil in transformers to be retained in service, inclusive of commercial options under which such decontamination services could be delivered in Turkey.
- Develop and compare economic and business options under which such decontamination services can be delivered for the identified inventory of such equipment for which holders would elect to retain for future service.
- If feasible, select a preferred technology and business model, and explore the potential for its demonstration.
- Apply commercially available low concentration decontamination processes for application to in-service transformers including commercial treatment of contaminated oil.

Component 3: Unintended Releases POPs Reduction

Outcome 3.1: Development of an updated/expanded national PCDD/F and PCB release inventory

Activities:

- Update and expand sector/technology and production data used in NIP inventory for UNEP Tool Kit application.
- Apply UNEP Tool Kit with most recent emission factor information available for applicable sectors and production technologies.
- Document updated inventory inclusive of analysis of results and identification/ranking of major sectors, and within them potential major individual release sources.

Outcome 3.2: Determination of source and technology specific U-POPs emissions

Activities:

- Assemble relevant regulatory data on U-POPs ambient and source U-POPs emissions
- Select priority industrial, utility and civil sources for application of monitoring.
- Undertake PCDD/F (including mercury and greenhouse gases as applicable) monitoring of emissions in at least 3 industrial priority source categories.
- Document results inclusive of development of source specific emission factors as applicable

Outcome 3.3: Provision of training and technical assistance on BAT/BEP for priority industrial sectors

Activities:

- Develop a training program for BAT/BEP based on IPPC BREFs/Stockholm Convention guidance for priority sectors, inclusive of curriculum and target recipients.
- Implement the BAT/BEP training program for at least 50 institutional, industry and service provider professionals.

Outcome 3.4: Development of a U-Pops Release Reduction Plan

Activities:

- Development/Adoption of a national Action Plan on unintended release reduction

Outcome 3.5 Demonstration of BAT/BEP in industrial source categories

Activities

- Undertake BAT/BEP assessments on three (3) enterprises inclusive of recommendations for action to reduce emissions.
- Introduce low investment BAT/BEP measures and monitor before and after PCDD/F emissions.

Component 4: Management Capacity for POPs Contaminated Sites

Outcome 4.1 Development of a POPs contaminated site inventory and policy

Activities:

- Design and implement a national contaminated site registry/inventory framework for collection of data on such sites.
- Develop an updated candidate list and information base of potential POPs contaminated sites for inclusion in the national contaminated site registry/inventory.
- Undertake 1st Stage assessments under the Soil Pollution and Point Source Polluted Fields By-law.
- Prioritize POPs contaminated sites for more detailed site assessment and action
- Initiate national policy development on assignment of liability for contaminated sites particularly those involving POPs.

Outcome 4.2: Development and adoption of soil and water concentration standards

Activities:

- Develop and enact soil and water contamination standards for priority POPs and other PTS (i.e. Hg) defining levels that trigger action on site assessment and subsequent clean up consistent with site specific risks, future land use, and international practice.
- Undertake stakeholder consultation on the proposed standards prior to finalization.

Outcome 4.3: Undertaking training/capacity building for site assessment and remediation technology

Activities:

- Develop training and information web based access programs on contaminated site assessment and remediation technology selection/operation.
- Establish and maintain a web based information dissemination tool on site assessment and site remediation technology.
- Deliver training to 25 institutional, industrial and service provider professionals.

Outcome 4.4: Implementation of pilot priority site assessments and /cleanup designs and priority containment/cleanup action

Activities:

- Undertake second stage site assessment on 10 of priority POPs contaminated sites.
- Initiate 3 containment/ remediation projects.

5. Institutional/Regulatory Capacity Strengthening for POPs and Sound Chemicals Management

Outcome 5.1: Legislative framework updated consistent with Convention obligations and EU directives

Activities:

- Drafting of framework legislation enshrining current Stockholm Convention obligations into national law-and current amendments related to new POPs.
- Complete ratification/accession to the Rotterdam Convention
- Undertaking consultation, approvals and adoption of the above legislation,

Outcome 5.2: Expanded operational POPs monitoring and supporting certified analytical capability

Activities

- Development of a comprehensive national inventory of POPs monitoring and analytical capability including commercial service providers
- Undertaking international certification of 3 of analytical laboratories for PCB, POPs pesticide, and “new” POPs such that capacity is available to regulatory authorities, and to industries through commercial service providers.

Outcome 5.3: Integration of POPs into national sound chemicals management framework

Activities:

- Develop and adopt an integrated program of chemicals management initiatives inclusive of POPs consistent with the SAICM framework and incorporating development of a National Chemicals Profile and PRTR.

Outcome 5.4: Delivery of sound chemicals management awareness and training

Activities:

- Develop training and web based information access programs on sound chemicals management using internationally available training modules and guidance materials.
- Establish and maintain a web based information dissemination tool on current sound chemicals management practice
- Deliver training on sound chemicals management to 100 institutional and industry professionals and stakeholders

Outcome 5.5: Implementation of general POPs/Chemicals public awareness programs

Activities:

- Develop a POPs/Chemicals communications plan for the general public
- Develop/disseminate information products
- Undertake targeted educational events programs

Baseline Project

These above outcomes are to be achieved by a baseline project complemented with the requested GEF grant. The baseline project is funded through private sector input for Project Components 1-3 while action covering project components 5 through national budget commitments and consists of:

Component 1: Elimination of Current POPs Stockpiles/Wastes

1(a). POPs pesticide stockpile and waste:

The limited voluntary action at Kocaeli site, including plans for securing of the stored materials some limited re-packaging and disposal and planning for future site land use, would take place in the baseline project. Based on the current plans and possibilities for action an estimated additional 500 tons POPs will be disposed of during the baseline project, leaving some 2,400 tons unattended. However, the baseline project will address immediate risk reduction measures at Kocaeli like safeguarding and monitoring the storage which is in poor physical condition (fencing, partial building repairs, safeguarding personnel, PPE). The baseline project will also include an investigation into the level of offsite releases, but no immediate action to remove the source of the contamination would be undertaken.

1(b) High concentration PCB and PCB contaminated material:

Further action identifying of high concentration PCB equipment at equipment holder and maintenance level will take place as a part of making the 2007 act operational. Procurement of replacement equipment for the currently known high concentration PCB equipment and further risk reduction action in form of safe PCB waste stockpiling will take place in the Baseline Project.

1(c) National POPs Disposal Capacity:

The Izmit facility will continue to provide service to various hazardous waste holders. Without the formal qualification and capacity for POPs disposal POPs holders including owners of the nearby Kocaeli stockpile will continue the use the export route for disposing of POPs.

Component 2. Planning/Capacity Building for Environmentally Sound Management of Future PCB Stockpiles

Utility companies, holders of low contaminated PCB equipment, will compile inventories of the PCB concentration in their transformer networks, through checking PCB contents as a part of the transformer maintenance schedules. Some 20 % of the current transformer network will be checked in the baseline project. Identified PCB equipment will be labeled and action taken at company level to avoid further cross contamination. In companies with large occurrence of PCB contaminated equipment will take initial steps for planning of the disposal/treatment of the contaminated oils and associated equipment.

Component 3: Unintended Releases POPs Reduction

Currently, Turkey has tangentially relevant regulations on industrial emissions contained in the 'Regulation for the Protection of Air Quality to Control Emissions of Industrial Sources'. Currently, there is a general enforcement and monitoring efforts of the MoEU related to air emissions but there is limited directed emphasis on U-POPs releases. The permitting system for new and upgraded facility also stimulates release reduction initiatives. The baseline project also envisages the assessment and

improvement of the efficiency of the laws and policies relating to U-POPs and BAT and BEP and harmonizes the current framework with EU regulations and the EC POPs protocol.

While several undertakings on U-POPs and BAT/BEP awareness have been undertaken during the NIP preparation, there is a need to reinforce private sector involvement during the baseline project. The country envisages in its national action plan, BAT/BEP projects and investment in pollution prevention and reduction especially in the industrial priority source categories. Assessment of representative pilot industrial facilities will be conducted during the baseline project. One important facet of the baseline project is the review of the economic aspect of the coal combustion issue in households considering the emission inventory from this source category indicated a very significant contribution.

Component 4: Management Capacity for POPs Contaminated Sites

During the Baseline Project the Ministry of Environment will commence work on a comprehensive strategy on contaminated sites. This strategy will provide further detailed rules on the responsibility of cleaning –up contaminated sites and the technical guidelines on best practices, and remediation techniques, for various soil contaminants. As most soil contaminants in Turkey originate from petrochemicals, petrol filling stations car workshops, as well as heavy metals, the emphasis in the early years of developing the strategy will be given for these contaminants. The Baseline Project will include mapping of potentially contaminated sites as well as building the capacity for site characterizations, sampling, remediation planning and selected remediation. Also first prioritization of known contaminated sites will be undertaken. For POPs sites progress will be done by identifying POPs contaminated sites that are in conjunction with other petrochemical sites, PAHs (considered as a POP in UNLRTAP) may be the POPs mainly targeted, however also PCB/dioxin contamination can be expected at some of these sites. During the Baseline Project strategies to address these sites will be developed, further site-characterization and clean-up action will require additional safeguards due to toxicity and lower safe levels for POPs than for petrochemicals. Therefore actual remediation planning or clean-up of POPs contaminated sites will not be undertaken during the Baseline Project.

5. Institutional/Regulatory Capacity Strengthening for POPs and Sound Chemicals Management

5.1./5.3. Legal and Regulatory Framework for POPs/ Integration of POPs into national sound chemicals management framework

The country has enacted a specific regulatory act in 2007 targeting the labeling, sampling, registration, and reporting on PCB containing equipment in service and their disposition as well as establishing storage, handling and disposal requirements. However, this has not yet been implemented sufficiently to provide a complete PCB inventory and control system which would be required to support a long term PCB Phase Plan and tracking capability for PCB elimination. Also, there is limited directed emphasis on U-POPs releases in the legislation. The Government initiated integration of POPs management into an overall sound chemical management framework, utilizing EU policies and programs such as REACH as a basis. This is reflected in the institutional arrangements established in MoEU that have the Head, Chemicals Management Department within the General Directorate of Environmental Management, as the focal point for POPs as well as broader chemical management activities with a close relationship maintained with the Waste Management and Air Protection Departments. In the baseline project, the fragmented efforts to improve legislation and better align institutional structures, to encompass broader chemical management aspects, have been taken place. In future, further improvements will be implemented at slow pace and in poorly coordinated stakeholder consultations process. The GEF project will provide support to drafting framework legislation enshrining current Stockholm Convention obligations into national law and current amendments related to new POPs; to complete ratification/accession to the Rotterdam Convention; and undertaking consultation, approvals and adoption of the above legislation. Finally, the GEF assistance will help develop and adopt an integrated program of

chemicals management initiatives inclusive of POPs consistent with the SAICM framework and incorporating development of a National Chemicals Profile and PRTR.

5.2. POPs Analytical and Monitoring Capacity

Turkey has laboratory analysis capability for PCBs and pesticides in government regulatory laboratories and research institutions but this is limited for commercial service providers. One major institute has high resolution PCDD/F analytical capability. The baseline project will continue to be the presence of analytical capability limited to commercial companies and only to PCBs and pesticides with inconsistent efforts to upgrade analytical methods to meet international standards. The GEF project will support development of a comprehensive national inventory of POPs monitoring and analytical capability including commercial service providers and international certification of 3 of analytical laboratories for a broad range of POPs: PCB, POPs pesticide, and “new” POPs such that capacity is available to regulatory authorities, and to industries through commercial service providers.

5.4./5.5. Public Awareness and Information Exchange/Trainings

In the baseline project, MOEU regularly conducts a basic public awareness program related to POPs/Chemicals management and targeted initiatives for industrial and institutional stakeholders. During the baseline project these activities will continue but at a modest level as dictated by available resources. There is recognition that this needs to be expanded to a level consistent with European practice including increased NGO involvement. Similarly, now that the country is a Party to the Convention it needs to expand its role in international information exchange, including active participation in Convention interactions and information reporting. The GEF assistance will support such expanded awareness programmes, and will develop training modules (with delivery of trainings for 100 institutional and industry professionals) and web based information access programs on sound chemicals management using internationally available training modules and guidance materials. Further it will help develop a POPs/Chemicals communications plan for the general public and disseminate information products

Expected Results

The GEF grant will support the baseline project by providing for complete disposal of the whole stock of lindane and associated contaminated materials from Merkim site (3,000 tons) which accelerates the destruction of a large stockpile of waste that otherwise, in the presence of limited financial resources and technical capacity to handle wastes, would have taken 25 years of gradual operations. The clean-up of the site will also demonstrate an integrated approach towards POPs waste (and, in general, hazardous waste) in one location and prepare the land for other types of approved industrial use. With regard to high-concentration material still available, the GEF resources will be used to complete the disposal of such and other concentrated PCB waste when found – GEF resources will serve as additional incentive, accelerating implementation of the baseline project, to complete the disposal of the known high-concentrated PCB materials (at least 200 tons). Furthermore, the baseline project is the previous establishment and current operation of a hazardous waste facility which potentially can destroy POPs stockpiles and waste. The operation of such facility is solely based on private sector investments. Given the current high utilization rate for the broader domestic hazardous/industrial waste market, the enterprise would not pursue these relatively low cost initiatives (POPs destruction) in the absence of an external incentive, even though it could potentially be a significant asset for both national and regional POPs/chemicals waste elimination programs. The GEF support will be used to perform burn tests on representative POPs to demonstrate DE/DRE compliance with BAT/BEP (with limited equipment upgrading related to separate POPs feeding systems). The GEF project will serve to focus the current general air emission and industrial permitting efforts on U-POPs issues and accelerated BAT/BEP adoption. The GEF support will allow the validation of emission factors from priority source categories and allow subsidy for the implementation of BAT/BEP in the pilot facilities. It will also provide for targeted interventions in potentially high impact local release issues having socio-economic implications

that would otherwise not be addressed. In terms of institutional/regulatory and POPs monitoring capacity as well as awareness raising, Turkey is generally advanced in addressing some of POPs issues, particularly in respect to eliminating PCB based equipment. The improvement of legislative framework will be ongoing, though due to limited financial resources, these will continue at slow pace. The GEF project will serve to fill some current gaps in the implementation of this overall framework to support more rapid, effective and timely delivery.

Consistent with the overall project objective and the outcomes above, the principle results expected from the project are:

- i) Environmentally sound disposal of up to 3,000 t of HCH and HCN contaminated materials which will make a substantial contribution to the GEF's targeted global elimination of obsolete pesticides.
- ii) Environmentally sound disposal of at least 200t of PCBs and PCB contaminated equipment.
- iii) Qualification of a national POPs disposal facility to international standards available for regional use.
- iv) National PCB Phase Out Plan for the scheduled elimination of PCB contaminated electrical equipment.
- v) Decontamination of up to 1,000 t of PCB contaminated dielectric oil in non-PCB transformers
- vi) National Unintended POPs Release Reduction Action Plan
- vii) National contaminated sites registry and prioritization of POPs contaminated site
- viii) Site assessment and initiation of containment/remediation of priority POPs contaminated sites
- ix) An integrated national sound chemicals management framework inclusive of POPs reporting/tracking tools.
- x) Expanded awareness of POPs and chemicals management among both stakeholders and the general public.

The project will be implemented under the supervision of the MoEU in cooperation with other national and local stakeholder government agencies, specifically, Ministry of Forests and Water, Ministry of Agriculture and Rural Affairs, Ministry of Health, and Ministry of Energy and Natural Resources. Direct implementation responsibility will be in the hands of a Project Management Unit within MoEU and reporting to the Department of Chemicals Management. UNDP in its functions as host of the UN RC system through its Turkey Country Office, will act as the lead implementing agency with UNIDO and with overall responsibility for coordination. UNDP and UNIDO will be responsible for procurement, financial management and reporting for their respective components. Additionally, UNDP will supervise Component 1, 4 and 5; UNIDO will supervise Component 2 and 3. These arrangements between the two implementing agencies are currently successfully being used for other projects at the country level.

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

Turkey has similar legacy and modern environmental management capacity limitations common in larger rapidly industrializing countries. Notwithstanding progress in addressing these, the country is trying to rapidly transition to a level of environmental management on this issue equivalent to a fully developed country, particularly in relation to the EU. This creates the priority requirement of Turkey to rapidly proceed with implementation of its NIP, something that in the absence of external assistance would not be achievable. More specifically this involves dealing with remaining accessible POPs legacies and equipping itself with the regulatory and technical tools for ongoing management of POPs as a fully developed country over a short period, all of which might happen without GEF assistance as proposed but

over a much longer period and with significant degradation of global environmental benefits now achievable due to progressive releases of POPs into the general environment.

Component 1 of the project is intended to address the principle high concentration POPs legacies remaining in the country, the main one involving a large stockpile of HCH which represents a significant local and global POPs release risk given its proximity to a major international sea route. Addressing this and other legacies meet the criteria of incremental cost given the inclusion of the subject POPs for elimination in the Convention, and which in the absence of international support would likely take many years to address. In particular, in the absence of GEF support addressing the Merkim HCH site would be limited to securing the building, limited packaging and possibly some token disposal as resources were available, which at the current rate of approximately 100 t/year would involve up to 25 years. The GEF intervention allows this to be done in less than two years, inclusive of leveraging co-financing that would otherwise not be available. This component also supports the qualification of POPs destruction capability in the country such that it can demonstrate destruction efficiency and other environmental performance parameters as set out in the Convention's guidelines as adopted by the GEF. This will offer further commercial POPs destruction capacity to smaller neighboring countries in the Middle East and Black Sea regions that would otherwise not be available. Modest GEF financing of qualification activities serves as an incentive to attract this enterprise into this market, thus offering a needed POPs destruction asset in the region, as well as stimulating its investment in required capital upgrading. This is effectively co-financing that otherwise would not be available in the absence of the GEF intervention.

Component 2 of the project addresses the need to manage the phase out of any retained PCB contaminated electrical equipment on a planned and cost effective basis such that it is scheduled to meet or exceed the deadlines imposed by the Convention. In particular it addresses the need to define the extent of lower level PCB contamination in their electrical infrastructure and providing the technical and decision making tools to eliminate this with the minimum of disruption and cost. In the absence of initiating this work now, the potential for inappropriate disposal and release will increase as the process is delayed and/or occurs on an ad hoc basis.

Component 3 of the project moves forward with the reduction of U-POPs current releases and the avoidance of new ones, something that is particularly critical in a country with a rapidly expanding industrial base. It first addresses the immediate need to better define the current magnitude and sources of U-POPs and follows a proactive approach of promoting BAT/BEP in both existing and new sources, consistent with international guidance and practice. The incremental basis for this is the priority attached to addressing this in the Convention and in the GEF focal area strategy, noting that in the absence of the GEF intervention such release reductions would not occur, or occur on a random basis over a longer period of time.

Component 4 of project is similarly oriented to proactively defining the extent of POPs contaminated site issue, planning the long term process of addressing it consistent with developed country practices and providing the technical and regulatory capacity to do so. In the absence of the GEF intervention and policy and action stimulus it provides, this issue there would be substantially less incentive to move forward with it and progress in this area would extend over a much longer period.

Component 5 supports the needed institutional and regulatory capacity to move forward with rapid implementation of POPs activities with a broader sound chemicals management framework, an approach consistent with international initiatives and the priorities advanced by the GEF.

The project will provide substantial global environmental benefits, not the least of which is the elimination of approximately 3,200 t of high concentration POPs wastes, something that will significantly contribute to the GEF-5 target for obsolete pesticide and PCB elimination. The other global environmental benefits while less quantifiable at this stage will contribute to the future release reduction of POPs as the capacity developed addresses PCB contaminated electrical equipment, U-POPs release reduction and prevention, and environmentally sound containment and remediation of POPs contaminated sites avoiding POPs release to land and water resources.

The project represents a cost effective intervention by the GEF in achieving these global environmental benefits in that it will utilize available and currently highly competitive environmentally sound POPs disposal capability, leverage substantial national resources being directed to placing Turkey as an environmentally advanced country, and associated bilateral resources that are supporting this. Disposal costs for POPs wastes are currently estimated as under US\$2,000/t.

In summary, the project represents an opportunity both for the country and the GEF to achieve rapid advancement of the Stockholm Convention’s objectives in a large industrializing country such that its progress to fully developed status in this area is achieved. As such the experience gained and lessons learned should serve as an example for cost effective replication in other such countries as they develop.

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](#).

The overall socioeconomic benefit of the project, as is the case for any major intervention of this type, is essentially derived from the elimination of critical POPs that would otherwise be released into the general environment with the impact that has on biological resources, inclusive of human health. The associated risk reduction at both a local and global level will positively impact the productivity of populations and reduce the financial burden imposed by potentially degraded public health, as well as contributing to general wellness and quality of life. This is particularly true for vulnerable parts of the population and for maternal health. This project with its substantial POPs legacy reduction impact of global significance in terms of volume eliminated would be a significant contributor to this overall positive socioeconomic impact.

More specific socioeconomic impacts from the project include: i) the removal of local health threats associated with the large POPs pesticide stockpile in terms of local exposure in an area of high population density as well as reclaiming the subject land for productive economic use; ii) U-POPs reduction and prevention in highly populated and industrial areas, particularly for PCDD/Fs will similarly reduce exposure and risks particularly to more vulnerable populations living in close proximity, while promoting the modernization and associated competitiveness of potential source industries through adoption of BAT/BEP; iii) the replacement of domestic coal use that will be promoted by the project should have a direct grassroots impact, particularly for women and children, in reducing direct to POPs and PTS emissions; and iv) the elimination of unintended PCB emissions from waste oil fuels in local agricultural produce production will likewise have direct local exposure and contamination reduction impacts as well as ensuring the ability to support a high standard of food quality, particularly for export which is a significant economic sector supporting local lower income populations.

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:

Risk	Risk rating	Risk mitigation strategy
Institutional risks associated with poor coordination among institutional stakeholders at the national and international level	Low	The well developed and stable institutional structure in the government with well defined responsibilities and working relationships, particularly between MOEU other national stakeholder ministries and local authorities provides a basic framework in which the project can be implemented. Similarly, the established structure of responsibility within MoEU within the Chemicals Department acting as the internal and external (national and international) focal point on the POPs issue offers a working level institutional structure, inclusive of the active direct technical involvement of the Air Protection and Waste Management Departments. Within MoEU

Risk	Risk rating	Risk mitigation strategy
		<p>Environmental Directorate will directly supervise the PMU, and maintains a close relationship with the GEF Operational Focal Point, formally located in the Environmental Directorate but now in the Ministry of Forests and Water.</p> <p>At the international level the project involves two GEF Agencies and is complimentary to several bi-lateral programs associated with the European Commission. MoEU and its predecessor have long established relationships with all of these organizations in implementing international assistance projects. UNDP and UNIDO have established a strong relationship in jointly implementing other project in Turkey with MoEU and its predecessor and the selection of an operating modality based on project implementation at the country office level with UNDP having a major resident project management capability as the lead agency will serve to minimize potential conflict.</p>
Cost risks associated with POPs legacy elimination	Low	<p>There are some uncertainties associated with the cost of eliminating POPs pesticides stockpiles and remaining high level PCB equipment largely associated with obtaining precise estimates of quantities. This will largely be addressed through detailed survey work and development of retirement incentive commitments during the PCB stage. The unit cost of destruction is based on 2011 competitively determined and contracted delivered prices for similar obsolete pesticides and PCB wastes in the region disposed of at EU incineration facilities.</p>
Uncertainties associated with addressing the lower level PCB contaminated equipment	Moderate	<p>The extent and nature of low PCB transformer contamination in the country remains a major unknown. Similarly the optimum approach to addressing it is uncertain. Rather than making substantial up front commitments to a fixed type of program, this uncertainty is addressed by undertaking a definitive assessment of the issue through a sampling program and determining the optimum approach to addressing what is found in the PPG stage. These options range from early retirement, retention in service as monitored POPs, and/or decontamination of oil and equipment for continuing service. The project will retain the flexibility to pursue the latter option depending on what is found and the selection of option by PCB holders and regulatory authorities.</p>
Level of private sector participation in the assessment of U-POPs monitoring, implementation of BAT/BEP measures and contaminated site assessment is limited	Low	<p>The strong and now expanding mandatory air monitoring and soil contamination regulations provide MOEU with the legal authority to initiate the required programs and order action. At the same time the Turkish private sector generally have recognized the need to improved environmental management and have a cooperative relationship with MoEU in these initiatives. The GEF project will serve to facilitate this cooperation through the technical assistance it provides in these areas, including deferring initial assessment costs.</p>
Level of capacity (technical, institutional) is underestimated	Low	<p>As evidenced by the work to date on the NIP and more generally the overall institutional and technical maturity in Turkey, the basic level of capacity in the country is high. The project will serve to strengthen capacity and expertise in targeted areas as well as provide targeted</p>

Risk	Risk rating	Risk mitigation strategy
		awareness raising.

The project will be monitored and evaluated on a regular basis according to applicable GEF, UNDP and UNIDO procedures for results-based management. An annual reporting exercise in the form of the project implementation review (PIR) will take place, where the project will be tracked for progress against the relevant performance indicators (including application of the POPs tracking tool), evaluated for progress made towards development results, and assessed with regard to its degree of adaptive management and its flexibility to respond to changing circumstances.

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:

A wide range of national and local stakeholders have been identified and initial information on the project has been disseminated mainly through MoEU but also the IA country office networks. Within the national government, consultation on the project and will continue with major institutional stakeholders, particularly the Ministries of Forest and Water, Agriculture and Rural Affairs, Health and Energy and National Resources. Similarly a number of major industrial stakeholders have been involved in preparation work to date including the main beneficiaries as well as enterprises in the cement, ferrous/non-ferrous metals, and environmental services sectors. This will expand particularly during the PPG stage, specifically with the involvement of industry associations in priority U-POPs emission source sectors which are seen as important vehicles for training, technology transfer and awareness activities. Similarly, increased involvement of national NGOs both environmental advocacy and within the business community will be expanded, as will consultation and awareness activities at the local government and among the local population directly affected by project activities. This includes the population, enterprises and landowners around the Merkim site and Izaydas site, potentially contaminated sites and populations potentially impacted by U-POPs.

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

There are a number of specific initiatives that are in progress or initiating that directly support and are linked to this project. They include two substantial projects supported by the European Commission and member states. One from the EC entitled “Convention Obligations/Chemicals Management Project” directly links to Component 5 and in relation to IPPC implementation to Component 3. A German financed project under the bilateral twinning program being completed on PCB inventories provides valuable input to Component 2. A smaller current EC financed project is supporting PRTR which links to Component 3 and 5. Turkey is also initiating a relatively large SAICM project on sound chemicals management that will be important in Component 5. A national project on the identification of contaminated sites is also being undertaken by major academic institutions (Middle East Technical University and Gazi University) with MOEU support and this will link to Component 4. Within MoEU itself, the project directly links to the long term major program initiatives in the Chemicals Department on sound chemicals management, and industrial air pollution monitoring and abatement undertaken by the Air Protection Branch.

With respect to programs being undertaken by the two implementing agencies, UNDP has several industrial pollution programs in progress including one on collective emission reduction through collective and collaborative action by industrial enterprises within specific regions that will provide information and profiles for industrial U-POPs reduction targets, and jointly with UNIDO a energy efficiency project. Turkey is member country of the UNIDO CEECCA BAT and BEP Forum, a non-legally binding framework promoting regional cooperation on the issue of U-POPs. It is a participating country in the UNIDO GEF Regional CEECCA project on the Introduction of BAT and BEP to industrial source

categories of SC Annex C and is the overall coordinator of another proposed UNIDO regional project on the Introduction of BAT and BEP in the Thermal Processes of the Metallurgical Industry.

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

The project combines the major comparative advantages of the two GEF implementing agencies. Both UNDP and UNIDO have proven track records in undertaking GEF projects generally and specifically those in POPs. Each have developed and implemented a large number of GEF-funded NIPs and post-NIP projects, including stockpile and waste projects for PCBs and obsolete pesticides as well as being active in promotion of sound management of chemicals. UNDP is mandated to provide a broad range of technical assistance at the country level globally and has a major focus to do this in the environmental protection and global convention implementation area. It offers strong country based expertise in the area, particularly in countries like Turkey, supported by technical expertise from regional headquarters levels. UNIDO is mandated to support developing countries and countries with economies in transition to achieve industrial development.

As confirmed in Annex L of the GEF document "Comparative advantages of the GEF agencies", UNDP has a comparative advantage in the area of Persistent Organic Pollutants, in specific with respect to Capacity Building and provision of Technical Assistance. The proposed project will benefit from UNDP's experience in integrated policy development, human resources development, institutional strengthening, and non-governmental and community participation.

In its capacity as GEF implementing agency which is experienced in the formulation and implementation of handling and disposal safe POPs (obsolete pesticides and PCBs) globally (including work on POPs contaminated sites), UNDP is particularly well placed to demonstrate best practices in safe disposal of POPs in line with approved international benchmarks.

UNDP assists countries in the implementation of POPs pesticides projects, building countries' capacity to soundly manage and dispose of POPs pesticides. UNDP is currently assisting four countries with the implementation of five POPs pesticide projects (2 projects are in China). There are also a number of POPs multi-contaminant projects implemented by UNDP that include important POPs pesticide components.

The largest part of UNDP's POPs project portfolio focuses on the management of PCBs. To date, GEF funding has been approved for UNDP-supported PCB management activities in the following 11 countries: Argentina, Brazil, Ghana, Jordan, Kazakhstan, Kyrgyzstan, Latvia, Mexico, Morocco, Slovak Republic and Uruguay.

With respect to the management and disposal of PCBs, UNDP supports these countries in:

- Strengthening legal frameworks and improving enforcement capacity pertaining to PCB management by addressing gaps in national PCB management regulations and creating an enabling environment for the environmentally sound management and destruction of PCBs.
- Undertaking additional PCB inventories to identify remaining geographically dispersed PCBs and sensitive sites, for example by identifying small and medium-sized enterprises possessing a portion of the remaining inventory.
- Improving PCB management practices (such as handling, storage, transport, and destruction) by providing technical guidance on management and safe disposal of PCBs and training for government officials, handlers of PCB-containing equipment, and other private sector entities, to ensure the sound management of PCBs throughout their life cycle.
- Ensuring safe disposal of PCBs in collaboration with PCB-containing equipment holders, by developing safe domestic disposal facilities, facilitating export of PCB waste to safe disposal facilities abroad, and improving coordination among PCB holders to lower the cost of transport and destruction of PCBs.
- Implementing public awareness campaigns and communication strategies to support all of the above activities.

This indicates a strong comparative advantage of UNDP to work on future POPs disposal projects, replicating, and building upon, the best techniques and practices that have been developed and it will draw on experiences and lessons learnt in other countries.

With respect to this particular project the two GEF Agencies have worked jointly on its development at the country level consistent with their working practice on other projects in Turkey, and have allocated project responsibilities for its various components consistent with their particular areas of local and global expertise. UNDP in assuming responsibility capitalizes on its track record in dealing with high concentration stockpiles and waste, contaminated sites and institutional capacity building.

UNIDO plays a lead role in the implementation of the Stockholm Convention on Persistent Organic Pollutants (POPs). Since the Convention opened for signatures in 2001, UNIDO became one of the principal agencies assisting developing and transition economy countries to meet their obligations under the Convention. UNIDO was awarded the status of Executing Agency by the Global Environmental Facility (GEF) in May 2000 in recognition of its comparative advantage in the area of industry- related POPs issues.

UNIDO and GEF recognize the importance that greening the industrial sector requires a holistic approach, with both energy and environmental policies/strategies playing strong and defining roles. The focus of UNIDO's support is to assist countries in putting in place the policy, institutional and financial frameworks in different GEF focal areas. UNIDO supports more than 50 countries in achieving sustainable industrial development under the GEF mandate.

UNIDO's comparative advantage is that the Stockholm Convention Unit uses UNIDO's practical hands-on experience, as well as long term working relations with the industry, to support the industrial sector to implement the Stockholm Convention. UNIDO focuses on the Convention provisions that are directly related to the industrial sector and provides technical assistance based on an environmentally sustainable industrial development approach. Such approach includes pollution reduction and/or elimination, process changes, substitute or modified materials and products, cleaner production methods, and the environmentally sound management for minimization and disposal of POPs chemicals and wastes. UNIDO has extensive experience on disposal/decontamination of PCB wastes and the application of BAT/BEP to reduce uPOPs.

For this project, UNIDO is focusing on lower level PCB contamination issues and reduction of unintended releases. These will introduce technical options and knowledge and technology transfer for the environmentally sound handling and safe disposal of low concentration PCBs. The project also involves initiatives for BAT/BEP to address the impacts of industrial emissions.

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

UNDP does not currently have any legal ability to decide to provide co-financing to GEF funded projects with UNDP's "own" resources (which are referred to as "regular resources"). Decisions on the allocation of UNDP regular resources to particular projects are country-led and are made within the framework of UNDG and UNDP in-country programming processes. These processes are the UN-wide United Nations Development Assistance Framework (UNDAF) and the Country Programme Document (CPD) - a document which states more clearly those results in the UNDAF for which UNDP has a direct responsibility, and which is supported by a more detailed Country Programme Action Plan (CPAP). Resource allocation decisions to particular projects under these programming documents are led by UNDP in collaboration with national governments. UNDP can and does, however, arrange for co-financing from Other Resources (i.e. non-UNDP core) to GEF funded projects. These sources can include multilateral, bilateral and regional donors, the programme countries themselves, NGOs, other UN agencies and the private sector, among others. Please note that UNDP normally achieves a ratio of more than \$3 in co-financing for every \$1 in GEF resources for country projects.

Initially for this project, the United Nations Development Programme (UNDP) has contributed 15,000 US\$ (grant) for the preparation of the project. UNDP has also contributed with in-kind technical support and assistance for initial scoping meetings with Government counterparts and project stakeholders which took place in the preparation of this PIF.

Further, the UNDP Resident Representative functions and Country Office human resources, local coordination and facilities will be available beyond strict cost recovery basis for the successful project implementation. This value has been estimated to at least US\$ 150,000 in-kind contribution, and will be further assessed and calculated during PPG. In addition to this UNDP Turkey is contributing with US\$ 100,000 grant towards the project budget.

UNDP's experience in integrated policy development, Capacity Development, institutional strengthening and non-governmental and community participation will also benefit this project.

The Environmental management experts in the Country Office have extensive experience in the implementation of GEF funded projects, such as those related to Biodiversity and Climate Change. Considering in-country presence and its long-standing experience in GEF project preparation and implementation, the UNDP Turkey environmental unit is very well placed to follow up on project implementation and progress.

UNIDO is committed to provide US\$20,000 in grant funding and US\$100,000 in in-kind funding to this project.

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:

On the country level, UNDP plays an important role in rendering assistance to Turkey with regard to managing liabilities subsumed within international environmental conventions and agreements and has the country in the ratification processes of a number of international agreements. Given that as of yet there has been no systemized interventions in the area of POPs stockpile disposal in Turkey, and given the substantive experience of UNDP in building capacity to safely manage POPs and chemicals, UNDP is well placed to formulate and implement such a project.

In addition to the above mentioned, within the Country Programme Document (CPD) for Turkey (2011-2015) UNDP signed with the Government of Turkey, the environment and sustainable development cooperation area, will work to enhance national capacities and promote (i) mainstreaming environment, climate change and energy efficiency into sectoral policies, (ii) promoting climate change adaptation and mitigation and carbon trading, and (iii) expanding access to environmental and energy services for the poor, vulnerable groups and others requiring special attention. More specifically, within the Country Program Action Plan, OUTPUT 3.3 will focus on enhancing national capacity to develop market for and access to environmental funds to support strategic environmental protection areas, including (a) biodiversity and ecosystem services; (b) climate change adaptation and mitigation; (c) sustainable forest and land management; (d) safe management of chemicals (e) sustainable cities and (f) biomass.

UNIDO is committed in introducing environmentally sound strategies aiming at preventing pollution at source through engaging industrial sectors in introducing environmental actions in an integrated manner. This reflects the commitment of UNIDO, through the support of GEF, to derive high in its agenda, the implementation of the Stockholm Convention and supporting green industry for sustainable industrial development and opening new avenues for transfer of clean technologies. UNIDO delivers its technical assistance to countries through a global set of institutional network ranging from field and desk offices, cleaner production centres, investment and technology promotion centres, environment technology

centres, and global environment forums of BAT and BEP. Thus, UNIDO has an excellent network of staff and the support of the relevant ministries of the participating countries to implement the project.


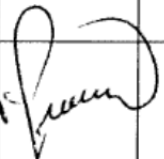
PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

- 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)
Dr. Lutfi Akca	Undersecretary, GEF Operational Focal Point	MINISTRY OF FORESTRY AND WATER AFFAIRS	08/01/2011

- B.**

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF/LDCF/SCCF policies and procedures and meets the GEF/LDCF/SCCF criteria for project identification and preparation.					
Agency Coordinator, Agency name	Signature	DATE (MM/dd/yyyy)	Project Contact Person	Telephone	Email Address
Mr. Yannick Glemarec Executive Coordinator UNDP-GEF		07/12/2011	Dr. Suely Carvalho GEF Principal Technical Advisor for POPs/Ozone UNDP/MPU/Chemicals	212-906-6687	suely.carvalho@undp.org
Mr. Dmitri Piskounov UNIDO GEF Focal Point			Mr. Mohamed Eisa		m.eisa@unido.org