



GEF-6 PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: FULL-SIZED PROJECT
 TYPE OF TRUST FUND: GEF TRUST FUND

PART I: PROJECT INFORMATION

Project Title:	Demonstration of non-thermal treatment of DDT wastes in Central Asia (Kyrgyz Republic and Tajikistan)		
Country(ies):	Kyrgyz Republic and Tajikistan	GEF Project ID: ¹	9421
GEF Agency(ies):	UNEP	GEF Agency Project ID:	01414
Other Executing Partner(s):	Green Cross Switzerland, BRS Sec, UNEP IETC, FAO	Submission Date:	May 06, 2016
GEF Focal Area(s):	Chemicals and Wastes	Project Duration (Months)	60 months
Integrated Approach Pilot	IAP-Cities <input type="checkbox"/> IAP-Commodities <input type="checkbox"/> IAP-Food Security <input type="checkbox"/>		Corporate Program: SGP <input type="checkbox"/>
Name of parent program:	[if applicable]	Agency Fee (\$)	1,360,800

A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES²

Objectives/Programs (Focal Areas, Integrated Approach Pilot, Corporate Programs)	Trust Fund	(in \$)	
		GEF Project Financing	Co-financing
(select) CW-2-Program 3 (select)	GEFTF	15,120,000	32,500,000
(select) (select) (select)	(select)		
Total Project Cost		15,120,000	32,500,000

B. INDICATIVE PROJECT DESCRIPTION SUMMARY

Project Objective: The establishment of national and regional capacity for the ESM of hazardous waste including DDT and other POPs.

Project Components	Financing Type ³	Project Outcomes	Project Outputs	Trust Fund	(in \$)	
					GEF Project Financing	Co-financing
1: Clean-up of a minimum of three high-risk DDT sites and risk reduction of additional 10 contaminated sites sectors	TA	Recipient governments manage DDT and related contaminated sites in line with the requirements of the Basel and Stockholm Conventions resulting in reduced impacts on public health and the environment	Output 1.1: Development of National Environmental Management Plans (EMPs) and Site-specific detailed Conceptual Site Models (CSM) for ESM of DDT stockpiles in each target country and integrated waste management plans for DDT wastes at a minimum of three high risk locations. Output 1.2: Implementation of	GEFTF	12,700,000	27,500,000

¹ Project ID number will be assigned by GEFSEC and to be entered by Agency in subsequent document submissions.

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

³ Financing type can be either investment or technical assistance.

			<p>CSMs for disposal of DDT waste stockpiles at a minimum of three locations in Kyrgyz Republic and Tajikistan resulting in the safe disposing of a minimum 5,000 tons of POPs, waste and implementation of risk reduction strategies at up to 10 additional priority sites in Kyrgyz Republic and Tajikistan identified as part of the national EMP process..</p> <p>Project Activities:</p> <p>1.2.1 Development of national EMPs and site specific CSMs for DDT stockpiles in Kyrgyz Republic (2 locations) and Tajikistan((1 location);</p> <p>1.2.2. Development of pre-treatment facilities in one or both countries;</p> <p>1.2.3. Commissioning, testing and licensing of I-SCWO (non-combustion alternative technology) for POPs disposal in one or both countries;</p> <p>1.2.4. Disposal of a minimum of 5000 metric tonnes of DDT stockpiles and associated waste using i-SCWO;</p>			
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			1.2.5. Implement on-site remediation of low level POPs waste at target sites and risk reduction measure at additional priority sites identified as part of the national EMP;			
2: Improved institutional capacity for regulation, licensing and performance monitoring of national treatment options in line with international best practice for ESM of POPs and related hazardous wastes and development of national reporting capacity in compliance with the Basel and Stockholm Conventions	TA	Countries adopt common approach to the management of hazardous wastes and chemicals in line with the requirements of the Basel and Stockholm Conventions reducing impacts from POPs.	Output 2.1: Technical support provided for formulation of National hazardous waste management legislation and regulations in line with international best practice, including the technical guidelines of the Basel Convention. Activities to include the development of a long term integrated hazardous waste management strategy for each country to address additional POPs wastes not included in the project scope. The Resultant “Road Map to Sustainability” to be submitted to government for adoption Output 2.2: Technical support and capacity building for performance monitoring and reporting of national treatment options for POPs and related hazardous wastes. Output 2.3:	GEFTF	1,700,000	3,000,000

		Capacity development for stakeholders to include vulnerable group analysis, gender analysis, risk communications and awareness raising. Output 2.4: Monitoring and evaluation and Knowledge Management.			
Subtotal				14,400,000	30,500,000
Project Management Cost (PMC) ⁴			GEFTF	720,000	2,000,000
Total Project Cost				15,120,000	32,500,000

For multi-trust fund projects, provide the total amount of PMC in Table B, and indicate the split of PMC among the different trust funds here: ()

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

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount (\$)
Recipient Government	Ministry of Environment Kyrgyz Republic	In-kind	5,750,000
Recipient Government	Committee for Environmental Protection Tajikistan	In-kind	5,750,000
GEF Agency	UNEP ROE	In-kind	500,000
GEF Agency	UNEP DTIE	In-kind	500,000
Private Sector	National waste management companies	Cash	2,000,000
Donor Agency	Swiss Govt	Grant	2,500,000
Private Sector	General Atomics	In-kind	14,000,000
Donor Agency	FAO	Grant	250,000
CSO	IHPA	In-kind	750,000
Others	RECETOX	In-kind	500,000
Total Co-financing			32,500,000

⁴ For GEF Project Financing up to \$2 million, PMC could be up to 10% of the subtotal; above \$2 million, PMC could be up to 5% of the subtotal. PMC should be charged proportionately to focal areas based on focal area project financing amount in Table D below.

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

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	(in \$)		
					GEF Project Financing (a)	Agency Fee (b) ^{b)}	Total (c)=a+b
UNEP	GEFTF	Central Asia	Chemicals and Wastes	POPs	15,120,000	1,360,800	16,480,800
Total GEF Resources					15,120,000	1,360,800	16,480,800

a) Refer to the [Fee Policy for GEF Partner Agencies](#).

E. PROJECT PREPARATION GRANT (PPG)⁵

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

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

Project Preparation Grant amount requested: \$300,000					PPG Agency Fee: 27,000		
GEF Agency	Trust Fund	Country/ Regional/Global	Focal Area	Programming of Funds	(in \$)		
					PPG (a)	Agency Fee ⁶ (b)	Total c = a + b
UNEP	GEF TF	Central Asia	Chemicals and Wastes	POPS	300,000	27,000	327,000
Total PPG Amount					300,000	27,000	327,000

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

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

F. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS⁷

Provide the expected project targets as appropriate.

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

PART II: PROJECT JUSTIFICATION

1. Project Description. Briefly describe: 1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed; 2) the baseline scenario or any associated baseline projects, 3) the proposed alternative scenario, GEF focal area⁸ strategies, with a brief description of expected outcomes and components of the project, 4) incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing; 5) global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF); and 6) innovation, sustainability and potential for scaling up.

1.1. Global environmental problems, root causes and barriers that need to be addressed

Large numbers of DDT burial and contaminated sites remain in ex-Soviet states constituting many tens of thousands of metric tonnes of highly hazardous material (pesticides and related heavily contaminated soils) which require environmentally sound management (ESM) as defined by the Basel and Stockholm Conventions. FAO figures indicate that over 200,000 metric tonnes of POPs waste and obsolete pesticides can be found in this region, constituting 40% of the estimated global total. Current governments are unable to fund clean up of such large amounts of legacy wastes and lack the institutional and technological capacity to ensure the impacts on human health and the environment from these stockpiles are reduced or eliminated. However, in

⁷ Provide those indicator values in this table to the extent applicable to your proposed project. Progress in programming against these targets for the projects per the *Corporate Results Framework* in the [GEF-6 Programming Directions](#), will be aggregated and reported during mid-term and at the conclusion of the replenishment period. There is no need to complete this table for climate adaptation projects financed solely through LDCF and/or SCCF.

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

the absence of corrective actions the adverse impact on human health and the environment will increase over time. The final costs for destruction of the chemicals and remediation of the contaminated sites due to widespread dispersion of the contaminants will also increase as a result of increased instances of uncontrolled releases of chemicals as the original packages corrode and so lose their integrity. In addition, poverty combined with the continued presence of these stockpiles drives the illegal extraction and sale of the materials, this has been repeatedly witnessed on street markets in the Kyrgyz Republic. As a result of illegal extraction and trade these banned, highly hazardous chemicals are used in agriculture and health sectors for control of insect pests. The chemicals are used in lieu of higher cost chemical products available through legal channels in direct contravention of the national regulations and the Stockholm Convention on Persistent Organic Pollutants.

Countries in the region have a varying level of industrialisation but a common feature is a lack of hazardous waste infrastructure allowing for Environmentally Sound Management (ESM) of hazardous wastes in line with the guidance of the Basel and Stockholm Conventions.

1.2 Baseline scenario or any associated baseline projects

1.2.1. Waste Baseline:

In terms of the baseline for DDT stockpiles and number of contaminated sites in the region there is a sound baseline available. Preliminary site assessments are available for high risk locations in the Kyrgyz Republic. For Tajikistan, general site assessment data for high risk locations was gathered in 2009 through a World Bank project. In addition, archival information by the two countries as well as the results of a series of Rapid Environmental Assessments (REAs) completed under a FAO supported initiative across the two countries are available.

With relation to the three high risk locations to be specifically addressed under this demonstration project there is a significant volume of data related to the amounts and types of waste sent for “disposal” in the polygons during the Soviet Era.

This data confirms:

- Between the years of 1973 – 1978 a reported 3,000 metric tonnes of obsolete pesticides were sent to the Suzak A polygon in the Kyrgyz Republic and buried in unlined trenches. To date, many of the trench constructions have been damaged by fires and illegal waste excavations⁹. The documents from this period are not available but based on interviews with local officials and the usage history of pesticides in the region it can be assumed that the majority of the waste buried in this location was DDT;
- Between the years of 1973 – 1984, a reported 1,300 metric tonnes of obsolete pesticides was sent to the Suzak B polygon in the Kyrgyz Republic. The materials were put into the concrete lined bunkers and unlined trenches where it was reportedly covered with slaked lime in ratio 1:3 before being covered by concrete slabs. A soil cover up to 1.5-2.0 m was laid on top of the slabs and the site was fenced off with barbed wire which has subsequently been damaged. There is an inventory list from 1973 which specifies in which specific bunker in the polygon each waste was stored. The documents also confirm that the materials sent to the site included approximately 700 metric tonnes of DDT and approx. 70 metric tonnes each of Aldrin (also a POP), and other pesticides;
- Between the years of 1973 – 1990 a reported 10,000 up to 15,000 metric tonnes of highly hazardous waste was sent to the Vakhsh polygon in Tajikistan¹⁰. The documents from this period are not available but based on interviews and data on the usage history of pesticides in the region it is understood that large quantities are DDT. This supposition is supported by a 2009 World Bank report

⁹ National data provided by the 2009 World Bank Report and the State Agency on Environmental Protection and Forestry, Kyrgyzstan

¹⁰ National data provided by the 2009 World Bank Report

which estimates that approx. 9,600 metric tonnes of DDT were sent for storage at the site as well as in a range of 5,000 tonnes of other pesticides including Finturam, Granozan, Prometrin, Sulphur, Sulphur colloid, Copper sulphate, Green vitrol, Penenaram, Relthan, Methylmerakaptifos, Genlynatin, Karbofos, Nithrophen, Thiodau and P-4. Today it is estimated that 3,000 to 4,000 metric tonnes of DDT waste remain at the site, the balance having been removed by illegal mining activities.

In 2011/2012, national inventories were undertaken under a FAO project funded through the FAO Turkish Trust Fund. The project identified up to 333 metric tonnes of pesticide wastes in 204 stores for the Kyrgyz Republic and 1,239 metric tonnes of pesticide wastes in 68 stores for Tajikistan. Local information gathered through these inventory activities provide important input for deciding where the immediate risk reduction measures must be undertaken. The majority of these stocks of pesticide wastes are the subject of a separate FAO GEF project submission which looks at the option of cement kiln disposal. This new submission by UNEP would offer an alternative to the proposed technology in the FAO submission if required.

Based on the information provided by national sources and a 2009 World Bank report a series of site investigations have been completed in the recent past under on-going projects funded by GEF and the EC operational in both countries. The projects, implemented by UNEP and FAO, have allowed for the development of initial conceptual site models (Stage 1 CSMs) at a number of locations which indicate the inter-relationship between the sites (contaminants), receptors (people, livestock etc) and the associated pathways linking the two. The Stage 1 CSMs are based on site surveys but do not include intrusive sampling investigation. The disruption caused by intrusive investigations is considered as posing a significant risk to the site with the potential for increasing the likelihood of uncontrolled releases of contaminants to the environment. Such intrusive investigations are therefore limited to the preliminary phase of the site remediation and are used to confirm the preliminary investigation which has been completed at each location. The three sites to be addressed under this submission were selected following an analysis of the risks posed by the storage locations and contaminated sites across the region. The risk assessment protocol developed by FAO looks at the cumulative risk from the contaminant (the hazard), the quantity of material at each location and the risk of exposure to human beings from the contaminant which is assessed by the Stage 1 CSM. Three risk factors are considered and used to formulate a risk-based prioritisation of the sites based on a comparative analysis.

The Stage 1 CSMs completed to date have also resulted in the development of draft site specific remediation strategies which indicate the Zoning of the site into hot or “dirty” areas, intermediate / transition zones and clean zones. This zoning classification is manifest in various international regulations linked to the remediation of contaminated sites and has been adopted by the FAO Environmental Management Tool Kit guidelines which will be used as the UN system basis for site demarcation in this project. These exercises have been completed for the three locations covered by this project. In conclusion it is understood that the 5,000 metric tonne target of the project is a minimum amount of waste known to be currently held at the three locations. There are indications of far larger waste volumes of waste at other sites but the three sites selected under this project represent the largest single sources of DDT and POPs waste based on existing data. This will be confirmed as part of the national EMPs developed under Component 1 of the project.

It should be noted that the three major pesticide landfill locations in the Kyrgyz Republic and Tajikistan have been temporarily secured by erection of fencing and placement of guards at the sites under a variety of previous initiatives including a UNEP implemented GEF project in both countries (GEF ID 3614). The intervention does provide a temporary solution to the illegal excavation of DDT from these locations but is not a long term solution. Large stocks of DDT remain buried in each location and with time will either result in accidental releases or large scale extraction and illegal use. These sites represent an ongoing financial burden to the countries in terms of long term maintenance of the sites, paying of guards and any future disposal which will still be needed.

Both countries are attracting increased investment and are facing a rapid urban population growth. There is a need, therefore, for a long term sustainable waste management solution for hazardous materials in both

countries which takes into account both the historical amounts of legacy chemicals such as POPs and the projected growth in production of other hazardous materials for a varied industrial and manufacturing sector.

Based on the available data it is concluded that the three locations contain an estimated 5,000 metric tonnes of DDT and other POPs wastes (conservative estimate) which pose a growing risk to public health and the environment due to illegal extraction and corrosion of the original packages. The sites provide ideal locations which can be used to demonstrate the commercially available, mobile, non-thermal treatment technology “Super Critical Water Oxidation” or *I-SCWO* which has been developed and commercialised by the US Company General Atomics. The locations and the use of the technology will allow for the ESM of the POPs wastes identified at the three locations and allow for the evaluation of the approach to determine the wider scale feasibility of the technology across similar sites in the region. 5,000 metric tonnes is also a critical mass of waste at which the approach becomes economically feasible, providing a cost effective Global Environmental Benefit.

1.2.2. Legislation Baseline:

Neither country currently has capacity for the environmentally sound management / treatment / disposal of hazardous wastes such as DDT in line with the requirements of the Basel and Stockholm Conventions. As such, the suggested disposal technology will have to undergo a licensing process before start of the demonstration phase. The licensing processes for both countries are described below:

- Tajikistan has a complete legal framework for the licensing of new technologies. The initial step is to develop a EIA of the demonstration facility. It is foreseen that the facility will be operated directly at the Vakhsh landfill due to the remoteness of the landfill and in order to avoid risky transport over long routes. The EIA is then submitted to State Environmental Review (SER) for review. The review period is fixed to a maximum of 2 months. Following a positive conclusion by the SER, the EIA is further submitted to the Committee of Environmental Protection's Division for the Use of Wastes and Secondary Resources. Latter provides the site operation license. Tajikistan is a State Party to the Aarhus Convention and therefore there is also a need to inform the public during the EIA/review process.
- In the Kyrgyz Republic the following steps are provided within the framework of environmental legislation:
 - development of the project with a detailed description of the technology / equipment, indicating the area / location of waste (including the development project-specific environmental conditions, EIA and public consultation);
 - approval of equipment/technology (within 90 days);
 - licensing of the operating company that will carry out operations (30 days processing time);
 - installation and verification of technology.

Both countries do, therefore, have national legislation and policies related to Environmental Impact Assessment (EIA) which look at the potential impacts of a process or facility on the surrounding environment and people. In discussions with representatives from Ministries of Environment it has been accepted that there is a need to adopt international best practice linked to the permitting of any proposed disposal technology used under this project. In each case national EIA procedures will be used to complete the initial national assessment and disclosure with local communities followed by the adoption of US or EU regulations related to permitting and operation such as the “Integrated Pollution Prevention Control – IPPC” approach as published in the European Council Directive 96/61/EC (IPPC Directive) linked to the licensing of any new facility. The IPPC process is derived from the BAT developed under the Basel Convention. The regulation sets limits on pollutant releases to all media (Air, Water and Land).

The traditional option of export for destruction in the European hazardous waste market is currently not available to either country due to limitation placed on the transit of waste across the broader Eurasian region under the *Eurasian Customs Union*, which came into operation in 2007. The agreement is at odds with the existing provisions of the Basel Convention and prohibits trans-shipment of waste across members of the

Customs Union (Russian Federation, Kazakhstan, the Kyrgyz Republic, Belarus and Armenia). The Union effectively cuts off access of Central Asian countries to European waste management operators requiring any initiatives on waste to establish national capacity. The project will work to accelerate accession to the Basel Convention by Tajikistan to allow movement of waste between the two countries in line with the requirements of the Basel Convention (if it is decided to establish a facility in a single country). The preferred option of mobilizing the i-SCWO treatment facility to each of the three sites will, however, mitigate the risk of restrictions on movement of waste between the countries.

This strategy of developing national or sub-regional capacity as opposed to the business as usual model of export to the high temperature incinerator companies operating in the EU creates a more sustainable legacy for countries, and was discussed at a recent inter-agency teleconference with the BRS Secretariat initiated through the GEF C&W Task Force. During the call the concept of movement of the vast quantities of waste stored in the Central Asia region to existing facilities in Europe was deemed infeasible based on the existing conditions in the Eurasian Customs Union and due to the carbon footprint and inherent risks associated with the transport of such large waste volumes many thousands of kilometers to the disposal facilities. Such an idea also goes against the *Proximity Principle* set out in the Basel Convention. It was also agreed that influencing the free movement of such wastes across national boundaries of transit countries such as those in the Eurasian Customs Union was beyond the sphere of influence of any UN Agency and that, at best, the BRS Secretariat can hope to facilitate a dialogue to stimulate free movement across territories. To this end a contact group is proposed at the next BRS Triple COP to look at this issue. The BRS Sec also confirmed that Tajikistan is in an advanced stage of accession to the Basel Convention so allowing the potential movement of waste under this project if a single treatment location is used based in the Kyrgyz Republic. The call concluded that the needs of the Central Asian region and other land-locked regions where transboundary movement of waste may be difficult requires the development of national or sub-regional capacity. The scale and selection of an appropriate technology should follow existing guidance provided by the Conventions and at the same time be based on sound economic principles and feasibility. The project therefore support the process by addressing any gaps in national legislations which are not in line with the stipulations of the Basel Convention (see below Output 2.1).

This issue was reinforced in recent dialogue with the GEF OFP of Tajikistan who confirmed that *“transport from the Vakhsh landfill in the South of Tajikistan to the North of the country for export is out of the question, as the transport of the waste takes place over main roads that are unsuitable for heavy transport. For large parts of the area is covered with snow with frequent dangers of avalanches. The danger of transport will certainly exceed the dangers of local treatment.”*

Currently, there is significant investment from the cement industry in both project countries with the construction of sophisticated, dry kilns. Initial technical assessment on the potential use of these cement kilns for the destruction of DDT, PCB and similar wastes has also been completed in the Kyrgyz Republic and Tajikistan. This work was completed as part of an on-going EC funded project implemented by FAO in the former Soviet Union. At this time it is not expected that this option for development of waste management capacity will be commercialised and so does not provide a variable option to meet the waste management needs posed by the large amounts of DDT and other POPs waste present in the countries. Also, the documented challenges faced by the waste incinerator World Bank project in Kazakhstan again emphasize that thermal technologies are perceived as high-risk by local communities. Discussions with the national IPEN network in the Kyrgyz Republic have confirmed explicit support to the option of using a non-thermal treatment option for the national treatment of such wastes and the associated improvements to existing national legislative and regulatory frameworks associated with establishing such a system, and IPEN will be involved in the PPG phase.

There is a continued need for an integrated waste management strategy in both countries, which will provide sustainable chemical waste management capacity in the longer term which is line with the Basel and Stockholm Convention technical guidelines for POPs waste. UNEP Chemicals and Waste Branch and the BRS Secretariat are currently updating the fact sheets on disposal technologies which comply with the Conventions. SCWO is one of the complying technologies. The project will therefore support countries to develop such

strategies. The strategies will take the best of current waste management approaches and aim to adapt them into the local context as part of a technology / skills / capacity transfer strategy. Any proposed technology solution to treat the DDT and other POPs waste in the countries will need to provide a short term solution to the problems facing both countries while a longer term solution is developed. The project will therefore look to compare cost, ease of operation under local conditions and, environmental performance data of the i-SCWO system to be supplied by General Atomics which will be introduced into the country, with more conventional thermal treatment options available in Europe. The project will also complete, under the PPG, a carbon footprint analysis of the traditional export and incineration option indicating the climate change benefits of introducing a local solution to the problem.

Unit treatment rates will include not only the cost of treatment but also of all steps in the process from excavation of the waste, pre-treatment, packaging for international transport inline with the RID, IMDG and ADR and, final treatment (to include effluent treatment of products of disposal). This evidence will be elaborated during the PPG and inception phase of the project and will add greatly to the overall global Knowledge Management system to be used by regulators and waste management departments in other countries facing similar challenges.

1.2.3. Technical capacity to execute project activities

During the Soviet era a strong emphasis was placed on the development of technical and scientific capacity across the Republics. As a result both countries possess national Universities and Research Institutes which continue to produce graduates and researchers with the necessary scientific and technical skills to support the execution of this project. A strong emphasis is placed on engineering and scientific subjects within national institutions which will allow for a large degree of the necessary scientific and engineering support to be sourced from national experts and companies.

1.3 Proposed alternative scenario, GEF focal area strategies, expected outcomes and components of the project

1.3.1. Introduction:

The project will focus on establishing national and regional capacity for the ESM of hazardous waste including DDT and other POPs. Based on technical consultation with STAP and the BRS Secretariat, research with academic bodies and market information from the waste management industry the project will treat the waste via the Super Critical Water Oxidation (SCWO) technology. The project will compare the economic and technological arguments of the business as usual model of possible export and incineration with that of a locally employed i-SCWO treatment option. This technology has made significant advances in the recent past and has been used to effectively treat similar wastes in large amounts on a commercial basis for customers including the US Military.

Experiences in a range of countries, especially with the destruction of chemical warfare agents, military explosives, PCB and other POPs waste demonstrate that SCWO has been received by local communities as extremely environmentally friendly. The residual materials after the SCWO process is completed are water, CO₂, salts and (if present in the material being destroyed) heavy metals. SCWO was broadly accepted at Blue Grass (Kentucky), which will become the last operating chemical weapons destruction facility in the US, as an alternative to the controversial incineration plans by the US Army. Containerised versions of the static SCWO facilities operating globally have now been commercialised by General Atomics in the US. It is this containerised, fully self contained and mobile version of the technology which will be demonstrated in this project, termed the i-SCWO. The set-up, operation and maintenance of the i-SCWO units has been designed to require minimum levels of operator input and the supplier will provide the necessary training of local experts on how to operate the system to the optimum potential as part of the contract for supply and operation. The i-Scwo system is transported in two shipping containers and, once arrived at the site, needs a five-days mobilisation period. Once iSCWO has been started, it can be run 24/7 or shutdown/restarted as needed. As far

as water is concerned, some of the discharge water can be recycled to the system to minimize high-water demand. Currently, the water consumption is on the order of 2,000 liters per 24 hours.

SCWO is already licensed to treat DDT waste and other pesticides according to US requirements. As such the technology is considered as not requiring further testing to prove destruction efficiency. Tests will be needed to optimise operating conditions based on the exact waste mixture to be found in the project sites. During the PPG stage a series of trials will therefore be completed at the General Atomics facility in the US to determine the optimum operating conditions for the wastes. The supplier will formulate “dummy” samples of equivalent waste to complete the trials (no waste will be moved from the sites to the facility in the US). Once operating conditions are optimised the company will be responsible for:

- development of the specifications for the pre-treatment facilities for waste blending to allow effective treatment, and feeding of the wastes into the SCWO reactor vessel;
- the provision of the equipment to include set-up, licensing, and trial processing runs under local conditions;
- training of local operators and waste handlers to run the pre-treatment and eventually the treatment facility in accordance with standard operating procedures;
- provision of all effluent discharge treatment technologies to ensure no adverse environmental impact;
- maintenance and support of the operation of the facility over the period of the waste processing.

The exact scope and nature of the technology supply contract will be established during the PPG and managed in accordance with UNEP procurement rules. It is envisaged that the technology supplier will identify local engineering and waste management partner companies to support the development of the necessary infrastructure and engineering support to allow for the effective and efficient pre-treatment of the waste prior to treatment by the technology.

The treatment technology will be provided either on a lease basis or under a technology transfer license to ensure proprietary Intellectual Property and Patent rights are protected. The exact nature of the contractual relationship will be confirmed during the PPG stage of the project. For the purposes of the budget the project has assumed that an i-SCWO unit will be purchased out-right and provided to the countries with the option of on-leasing to national waste management companies at the end of the project. Cost savings may be secured if the unit is provided on a lease basis and temporary import and operation for the duration of the project. In such as case cost savings will be used to offset the treatment of a larger amount of waste than the estimated 5,000 metric tonnes.

The on-going operation and management of the technology will be maintained under the supervision of the supplier to ensure continued environmental performance in line with the optimized operating parameters confirmed during the licensing phase. After the initial inception period General Atomics will provide back up on quarterly basis. Graduate engineers with a chemistry or chemical engineer background will then oversee the pretreatment and treatment stages of the process. A series of newly trained Technicians will operate the pretreatment and waste handling aspects of the operations. It is envisaged that the personnel requirements will include teams of 5 at any one time to allow for shift work resulting in the facility being operational for 16 hours a day. Capacity will be ensured via 3-6 month initial supervised operational period for trials and testing locally. Towards project end, the possibility to have the technology bought by concerned governments through public-private partnership will be considered to allow for processing of similar wastes at national level.

Once the PIF is approved the PPG will also allow for:

1. Confirmation of waste types and volumes in all three target locations by intrusive sampling (not recommended unless as part of a full remediation plan and so not completed to date);
2. The confirmation of the preliminary site specific remediation plans and CSMs based on the intrusive site investigation and geophysical / remote sensing site investigation. From these Initial plans the activities to be completed in each zone can be summarised as:

- **Hot / Dirty Zone:** currently delineated by the boundary fence at each location. All the area contained within the boundary fence will be considered as contaminated. Entry to this zone will be via prescribed vehicle and personnel entry and exit points with specific transport plans indicated areas where tracked excavation vehicles will operate. Entry to the hot zone will include vehicle wheel wash facilities and the customary three-stage decontamination procedures for personnel via a fixed changing station unit. The activities in the zone will primarily be related to the excavation and packaging of the waste into certified containers to allow for movement to the waste handling and pre-treatment facility established in the Kyrgyz Republic. Personnel will wear high levels of personal protective equipment and follow a series of standard operating procedures to ensure the highest levels of safe working. In this particular project the option for the placement of the pre-treatment (drying, milling and transformation into a homogeneous slurry mix) and treatment (iSCWO facility consisting two containerised units plus associated generator) facilities at each of the three locations will be assessed. The benefit of this solution is the reduction in transport costs of the any hundreds of tonnes to a separate location and the associated risk reduction from potential traffic accidents during the waste transit. This option will be considered in the overall EMP for the project developed at the PPG or project inception stage.¹¹
- **Intermediate Zone:** a temporary hard-standing area will be developed immediately adjacent to the Hot Zone at each location. This intermediate zone will be used as the storage site for the repackaged materials excavated from the Hot Zone if the option for movement to a centralised treatment plant is selected after the EMP process (which is unlikely as the SCWO is transportable).. Access to this zone will be restricted to operational personnel and activities conducted in this area will primarily be related to waste characterisation and classification prior to labelling and final dispatch to the pre-treatment plant. Again entry to the zone will be via changing stations and vehicle access will be limited to fork lift trucks and other waste handling machinery necessary to maintain and organised and well managed storage site. Waste will be batched prior to dispatch to the pre-treatment plant. This zone will also include an equipment decontamination area where tools and materials will be cleaned and stored.
- **Clean Zone:** the clean zone is characterised by zero contact to contaminated materials. New equipment and materials will be stored in containerised storage units. A site manager communications centre will be established along with a visitor reception and awareness raising / communications hub. It is proposed that this be used to allow for site visits from local communities to ensure that all stakeholders are kept informed on the operations at the site and no adverse publicity is allowed to develop. An open door policy will be adopted to ensure all stakeholders are engaged and informed on the benefits of the work being done at the site.

3. Development of national communications and awareness strategies linked to the destruction of POPs waste and the need to avoid future use;

4. Confirmation of sources and amounts of co-finance.

1.3.2. The Project:

The FSP will have the following set of objectives and outputs:

Component 1: As previously indicated the project has selected three locations known to pose a significant risk to public health and the environment which have been identified under previous initiatives. Component 1 involves the clean-up of these three high-risk DDT burial sites and implementation of risk reduction and contamination management measures at a number of other high risk sites previously identified across project countries. The component will aim at supporting the establishment of long-term management plans and technological capacity for the ESM of similar wastes and management of other contaminated sites after the life of this project. The net result will be the reduction of risks posed by DDT and similar POPs chemicals to human health and the environment in both project countries and to stimulate a sustainable system for ESM of hazardous wastes in the future. The component consists of three main Outputs:

Output 1.1: Confirmation of national EMPs for ESM of DDT wastes and development of site specific CSMs, (estimated budget USD300,000):

Activities to be confirmed during PPG phase but based on existing data will include, but not be limited to:

- Detailed site investigations at the three target locations (Suzak A and B in the Kyrgyz Republic and Vakhsh in Tajikistan) that are known DDT landfill sites to developed site specific Stage 2 CSMs. Besides the use of classical investigations the use of drones/satellite-based remote sensing for site characterisation is planned with a ESA-funded related project.
- Additional site investigations at high-risk sites selected based on review of the existing inventory data;
- Development of a national Environmental Management Plan (EMP) to include safeguarding / risk reduction strategy, disposal strategy, options for long term future storage or safeguarding / capping of sites (to include cost benefit analysis)¹², technology assessment for ESM of DDT by thermal and non-thermal treatment processes, etc.;
- Economic feasibility study for development of sustainable hazardous waste management to include a critical assessment of establishment of a single pre-treatment and treatment centre in one of the project countries vs. the movement of the facilities for operation at each of the three locations;

Output 1.2: Implementation of Stage 2 CSMs and EMPs in both countries:

Activities to be confirmed during PPG phase may include, but not be limited to:

- Safeguarding / risk reduction of DDT stockpiles at the three priority locations. Estimated budget USD1M;
- Pre-treatment of DDT wastes to allow for destruction by i-SCWO. This will include the drying of the waste, milling to a consistent grain size, addition of water and surfactant reagent to produce a homogenous slurry feed mix which can be introduced into the treatment plant in a continuous manner. Estimated budget USD1.5M;
- Destruction of DDT wastes using i-SCWO to be supplied by General Atomics (as the sole commercial developer and commercial operator of the equipment). Budget estimate USD9.5M with an estimated USD4M to cover capital costs for supply of the equipment. This equates to a destruction cost per ton of \$1,900 (it is noted that this is based on procurement of the equipment, the PPG will also look to lower costs through lease options);
- Implementation of long term, in-situ, site remediation plans to address any contamination identified at each location following the removal of the DDT / POPs wastes. This activity will be done in close combination with local scientific institutions;
- Implementation of risk reduction measures at a minimum of 10 additional sites across both countries (budget dependent). This is aimed at preventing the shift of illegal extraction activities to the next group of polygons and dump sites which are understood to be orders of magnitude smaller in terms of waste volumes stored. Allocation of USD400,000 to cover this activity;

Component 2 focuses on institutional strengthening and involves legislative review, the drafting of national legislation and technical regulations in the areas of waste management with an aim to result in adoption of a common standard allowing for convergence to international best practice. The component will also look to develop capacity in enforcement of environmental standards related to waste management of POPs and other hazardous materials as required under the Basel and Stockholm Conventions and related MEAs. Finally, the component will include activities related to awareness raising, training and guidance to non-governmental and civil society groups related to the risks from use of banned chemicals and the need for ESM of hazardous chemicals.

Output 2.1: Waste management policy and legislation:

Activities to be confirmed at PPG stage will include, as a minimum:

¹² It should be noted that long term storage of such wastes is often an increased costs unless final destruction is completed in a timely manner. Repackaging of stored wastes is a common problem due to failure of the integrity of the packages over time. The project will, however, complete a review of options and costs associated with this option as well as part of the EMP process..

- Analysis of existing legislative frameworks on transport and transboundary movement of hazardous wastes. Gap analysis will be completed, and amended legislation drafted to ensure the governments have available legislation that is compliant with Basel Convention requirements;
- Action plan development and implementation to provide an enabling environment for sustainable ESM of wastes;
- Development of a system for licensing of waste management facilities to include emission standards and monitoring based on the action plan and gap analysis above.
- Development of a long term strategy for the sustainable management of POPs and other hazardous wastes in both countries. A “Road Map to Sustainability” will be developed which includes amongst other assessment of technology options into the future to allow for a fully integrated hazardous waste management strategy.

Output 2.2: Performance monitoring and reporting:

Activities to be confirmed at PPG stage will include, as a minimum:

- Development of technical guidance for environmental inspectors on impact assessment for waste management activities and facilities;
- Capacity development for supervision and inspection of waste management activities and facilities;
- Strengthening of national reporting mechanisms to facilitate reporting on Stockholm Convention and related MEAs

Output 2.3: Capacity development in non-governmental and civil society sectors:

Activities will include:

- Implementation of the project level communications and awareness strategy developed at the PPG with an emphasis on vulnerable group analysis and risk communication. This will include the process of obtaining public support for destruction of waste by i-SCWO at the current landfill locations or at a selected central location;
- Delivery of the communications and awareness strategy through civil society, including IPEN, and non-governmental sector stakeholders.

Output 2.4: Monitoring and evaluation and Knowledge Management (KM):

In addition to the statutory obligations for GEF reporting the project will install a knowledge management platform to allow for lessons learnt to be made available to all partners as and when project Outputs are completed. It is felt that for this project which is looking to provide a direct comparison of the technological and economic feasibility of developing local solutions at national level, the access to information and data is a key added value to the wider GEF community through linkages to existing UNEP operated knowledge management platforms such as UNEP-Live. The Brno (Czech Republic)-based RECETOX centre will be involved so that the knowledge and experience gained during the project will be disseminated/used in similar activities in other countries in the region. IHPA (as author of the Basel Convention disposal technology fact sheets) will also provide independent evaluation of the performance of the i-SCWO facility. See also additional text under *Section 7. Knowledge Management*.

1.4) Incremental/additional cost reasoning and expected contributions from the baseline and the GEFTF, and co-financing

The project aims to remove and dispose of over 5,000 metric tonnes (te) of DDT and other POPs-containing materials currently buried in high risk locations across the two project countries. These include the Suzak A and B landfill sites in the Kyrgyz Republic and the Vakhsh landfill site in Tajikistan. Both countries currently have no waste management infrastructure and technological capacity to treat this waste. Both countries do have access to an educated work force with many of the necessary baseline technical skills to support the processing of wastes at a national facility following training and supervision by experienced international waste management contractor. There is therefore a window of opportunity to build on this new capacity to establish national and / or regional capacity for ESM of wastes using a non-thermal treatment option such as i-SCWO.

The project will also provide objective data comparing the technological and economic performance of this option with traditional thermal treatment technologies such as high temperature incineration in Europe. The opportunity to use a mobile unit which can operate effectively and efficiently to the highest global environmental standards with minimal licensing requirements, low emissions and little public opposition makes this alternative scenario attractive on a number of levels.

GEF resources have historically be used to support site characterisation (to be done here through the intrusive site investigations at the three locations), risk reduction at high risk priority sites (these sites have been selected based on exactly these criteria), institutional capacity building (to be done as part of Outcome 2) and technology demonstration (the use of i-SCWO to treat these waste streams on a mobile basis under this project fits this criteria). All of this allows for the development of a body of knowledge which can be scaled up and replicated at additional sites in the country and in the sub-region with minimal capital investment costs compared to traditional status installations such as high temperature incinerators. The approach adopted in this project looks to provide a flexible tool which is able to meet equivalent environmental performance and, at the same time reduces the need for transport of wastes away from the site where they are currently stored. The technology is also largely accepted by the international NGO community which remains predominantly anti thermal treatment technology. Without GEF resources to stimulate the move towards sustainable management of hazardous wastes this opportunity will be lost resulting in the continued release of DDT due to illegal extraction with the resultant impacts on local, national, regional and global stakeholders.

1.5) Global environmental benefits

The key global environmental benefit of the proposed project is the disposal and reduction of releases of over 5,000 te of POPs and other chemicals of global concern. The initial benefit from the reduction in POPs burden will be compounded by the development of a regulatory, enforcement and technical capacity to treat similar wastes in the future. The technological solutions and management processes developed under this project will be equally applicable to other hazardous wastes and will be based on technology and skills transfer from experienced hazardous waste companies currently operating at the global scale. The countries are therefore benefiting from the decades of technology and legislative experience gained in regions such as Europe and the US without the negative impacts from mistakes which have been made in the past. The process of treating the wastes as close as possible to the current point of storage also provides significant climate change benefits and accident risk reduction due to reduction in transport requirements.

1.6) Innovativeness, sustainability and potential for scaling up.

The project will primarily build on the experience of the national stakeholders and UNEP on management of POPs based on the requirement of the chemical MEAs including Stockholm and Basel Conventions. The project does have a number of elements which are new in the wider GEF context and which will provide results and proof of concept, which can be replicated in other countries / projects. The primary areas of innovation in this project can be considered as:

1. **Technology Selection and Mobile Approach:** Super Critical Water Oxidation (SCWO) is a mature technology with a track record of environmentally sound disposal of hazardous chemicals and POPs waste. It has been commercialised by General Atomics and in the recent past has been commercialised into a containerised, mobile treatment plant branded as i-SCWO. The system has modest requirements in terms of inputs (energy and chemicals) and very little pre-treatment of waste is needed to allow for processing of solid materials such as DDT wastes considered under this project. The technology relies on the interaction of high pressure (3400psig / 234 bar) at 650-700 C in the presence of water to promote complete oxidation of complex organic compounds. The benefits of the technology include no release of airborne particulates, liquid effluents which meet the US EPA standards and an ability to achieve 99.9999% destruction efficiency. The design meets combined EU and US quality standards. In the US the technology has only to

undergo air release certification. The equipment can be set up and be ready for treatment of wastes within 5 days of delivery to site. Inputs needed are modest with no hazardous chemicals needed for pre or post treatment of effluents. The containerised nature of the equipment allows for the option of moving the technology to each waste site with significant risk reduction and transport cost savings;

2. Links between *C&W and Climate Change*: the project will work to establish a tangible set of linkages between the issue of Chemicals and Waste / POPs management and Climate Change mitigation focal areas. The aim is to establish a cost benefit analysis on the national treatment of specific POPs wastes (in this case DDT) using a non-thermal treatment process with economic arguments linked to energy efficiency, reduced carbon footprint due to reduced transport needs and associated climate change benefits. It is anticipated that this analysis will attract preferential loans and grants from major development banks in the region to support accelerated phase out of similar sites across the region which do not have access to conventional thermal treatment options operating commercially in Europe. It may also be transferable to ozone-depleting substances (ODS) compounds stored in ozone banks;
3. *BRS Compliance and reporting linked to national Knowledge Management system*: The project will promote the ratification of the Basel Convention in Tajikistan. UNEP is also in the process of assisting countries through the development of a national reporting system (NRS) for multilateral environmental agreements (MEAs). The system requires input of data at national level and can be tailored to meet the specific requirements for each of the relevant MEAs. The project will look to develop the data collection and reporting formats which will allow national data to be entered into the system to meet national reporting requirements for the BRS conventions;
4. *National guidance and training materials*: whilst there are extensive guidance and training materials developed at Global level related to the ESM of POPs, there remains a lack of materials adapted to regional and / or national needs. The project will therefore take existing guidance plus materials developed as a result of the project activities and work with national stakeholders to develop national and regional capacity in the area of technology assessment and waste management. The project will also fill any gaps in existing guidance, which will feed into the wider global knowledge and support to countries on ESM of POPs Such as DDT;.
5. *Results from the demonstration projects*: the application of BAT / BEP principles for ESM of POPs waste will aim to develop new areas of knowledge related to the management of POPs waste by SCWO as an alternative to conventional incineration in Europe;
6. *Demonstration of ESM of POPs contaminated sites*: the project will aim to develop new techniques for risk reduction at POPs contaminated sites. The technologies will be adapted to local conditions and be based on in-situ treatment through bio-remediation and related techniques;

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

The Ministries of Environment, Agriculture, Health and Industry are key stakeholders guiding project development and implementation in both countries.

NGOs: Credible and experienced NGOs will be identified in the project design phase to assist in outreach activity design and planning. IHPA will play a lead role in the identification and selection of national NGO partners and provide specific training to the selected teams. IPEN has expressed its support for the project approach, and will be consulted during the PPG to increase outreach effectiveness, among its country-based member groups.

Women's groups: women and children present a specific vulnerable group which the project will target in terms of awareness raising and behavioural change.

Brno (Czech Republic)-based RECETOX and IHPA will be involved so that the knowledge and experience gained during the project will be disseminated/used in similar activities in other countries in the region.

Additionally, representatives of the private sector, e.g. the waste management industry, will play an important role in implementation of the project and its long term sustainability.

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

Gender equality and women's empowerment issues will be considered in the PPG phase through the completion of a robust gender analysis. The analysis will focus on the differences, specific vulnerabilities, needs, roles and priorities of men and women in the context of project activities. The results of this analysis will facilitate the mainstreaming of opportunities for women's empowerment and gender equality into the project design, and subsequently implementation. To bolster the effectiveness of this approach gender quality will be built into the project monitoring and evaluation framework, with sex-disaggregated indicators included in the project results framework, outlining the percentage share of women and men as direct project beneficiaries.

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

1. Existing site assessments are inaccurate: The current site assessments are preliminary and provide a general overview of potential amounts of waste. Taking this into account, site assessments including intrusive investigations will be completed as part of the project. Composite samples will be analyzed for target chemical groups, and the results will be used to develop an updated remediation strategy. Realistic disposal options will also be assessed on a country-by-country basis as part of the remediation plan development.
2. Remediation and disposal options are not available: The PPG will complete a pre-feasibility study, and negotiations with General Atomics over the deployment of the proposed disposal option. If the option becomes unavailable then the demonstration project will be withdrawn (this is however considered to be very unlikely);
3. Governments support remediation efforts, but lack adequate resources: Co-financing discussions have already been initiated and are being considered on a country-by-country basis, acknowledging the different situations faced by both country in terms of capacity to contribute. Efforts are also being made to bring in a broad base of stakeholders to support remediation efforts, including the private sector. Initial discussions are underway with the Swiss Federal Office for the Environment to coordinate Swiss co-finance support to the project as both countries are eligible for support.
4. Governments not committed to adopting revised hazardous waste management legislation: Adoption of legislation will likely take longer than the project lifetime. The project seeks to work in consultation with countries to develop revised legislation ready for adoption, thereby overcoming the barrier of lack of drafting capacity in countries.
5. Local communities do not contribute to risk-reduction measures: Involvement of local communities is key to the sustainability of project efforts. As such outreach work will be intensive and extensive, including meetings with community leaders, and collaboration with credible and experienced NGOs.
6. Lack of buy-in from environmental NGO partners and health communities as to the importance of not using DDT for control of insect pests: Communication is key and this risk will be mitigated through outreach activities, focused on explaining health benefits of use of alternatives to DDT for families, women and children

related to increased productivity and lower costs linked to treatment of avoidable illnesses. This will be linked with the national IVM programmes undertaken by the Ministries of Health in both countries

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

The project and the project design phase will also coordinate with the project "Lifecycle Management of Pesticides and Disposal of POPs Pesticides in Central Asian Countries and Turkey (GEF ID: 5000)" being executed in Azerbaijan, Kazakhstan, the Kyrgyz Republic, Tajikistan, and Turkey by FAO. As the projects have two countries in common, extensive discussions were held in the project design phase with FAO (the Implementing Agency of the other project) to ensure all project activities are complimentary. The FAO project includes a feasibility assessment of the suitability of cement kilns in Tajikistan for disposal of DDT, and the proposed project will draw on the results of this study. It has been confirmed during the development of this PIF that the new project is complimentary to the FAO project as the FAO project will focus exclusively on pesticide stockpiles and not buried DDT stocks. There is potential for synergies with the two projects with the locally developed capacity under the new UNEP project potentially being used for ESM of the pesticide wastes collected under the FAO project.

The project will constitute a part of a previous program establishing sound POPs disposal capacity in different countries. Such projects demonstrating non-combustion technologies have already been undertaken in Macedonia, Mongolia and the Philippines.

In addition, the EC/FAO project (GCP/RER/040/EC) project "Improving capacities to eliminate and prevent recurrence of obsolete pesticides as a model for tackling unused hazardous chemicals in the former Soviet Union" is also relevant to the work of the project. Like the aforementioned GEF/FAO project, this project includes an initial feasibility assessment of the suitability of cement kilns in Kyrgyz Republic for disposal of POPs. This work is being completed in coordination with the aforementioned project. The results of both studies will be used to inform the design of this project during the PPG stage and allow for cost benefit analysis and comparison of two alternate technologies.

The project will be designed to coordinate with, and build upon the work of the World Bank/GEF project "Elimination of POPs waste in Kazakhstan (ID3982)". This UNDP project is understood to be working to address stockpiles of PCB wastes and eliminate barriers to the establishment of a regional treatment facility. The new UNEP project will draw up on the lessons learnt during the development of the project in Kazakhstan.

The project will also draw on the lessons learnt from the project "POPs Legacy Elimination And Pops Release Reduction Project" being implemented in Turkey by UNIDO/UNDP which is eliminating high concentration POPs stockpiles along with associated site clean ups.

UNEP IETC is also active in the region linked to supporting regulatory reform and during the PPG phase, relevant activities will be comprehensively reviewed to ensure the project design is complimentary to IETC activities and also draws on best practices developed.

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

This project is directly in line with the priorities set by project countries in their respective NIPs.

Kyrgyz Republic submitted its NIP in April 2009. The NIP notes that DDT was not produced, but that it was widely used. It also: prioritizes clean-up of the Suzak area; notes that over 1.8 million hectares were treated with DDT; and also notes that anecdotal evidence indicates that DDT is still being used in some small farms.

In the frame of the current GEF/UNEP DDT project, a total exceeding 30 metric tonnes of DDT were repacked at the At-Bashy anti-pest station.

Tajikistan submitted its NIP in November 2007. The NIP notes that DDT was not produced in the country, but that it was used widely. It notes the Vakhsh and Kanibadam burial sites contain 3,100 tons of DDT. It also underscores existing demand for DDT, noting that Customs seized 17 tons of DDT imported from a neighbouring country in 2005-2006.

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

Output 2.2 of this project will aim to design and implement an effective knowledge management system including a pilot system for managing chemicals in both countries. The system will also facilitate reporting for MEAs through an interface with the UNEP National Reporting System and UNEP Live. Further, Brno (Czech Republic)-based RECETOX centre and IHPA will be involved so that the knowledge and experience gained during the project will be disseminated/used in similar activities in other countries in the region.

The project will also provide valuable technological and economic data on the application of the SCWO technology in the developing country / country in economic transition context. The data collected over the life of the project will provide objective evidence on the application of technology transfer under local conditions. The data will also contribute to the body of scientific evidence collated by the Secretariat of the Basel Convention and GEF STAP on technology options for POPs destruction, allowing for global dissemination of data with the potential for scale up and replication. The project will also allow for neighboring countries with similar challenges to visit the facility during operation to facilitate information exchange and awareness raising on how the technology can be successfully deployed under local conditions.

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

A. RECORD OF ENDORSEMENT¹³ OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):

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

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
Sabir Atadjanov	Operational Focal Point	State Agency on Environmental Protection and Forestry, Kyrgyz Republic	
Khairullo Ibodzoda	Operational Focal Point	Committee of Environmental Protection, Tajikistan	

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies¹⁴ and procedures and meets the GEF criteria for project identification and preparation under GEF-6.

Agency Coordinator, Agency name	Signature	Date (MM/dd/yyyy)	Project Contact Person	Telephone	Email
Brennan Van Dyke Director, UNEP/ GEF Coordination Office		May 06, 2016	Kevin Helps Senior Programme Officer DTIE, UNEP	+254-20-762-3140	Kevin.Helps@unep.org

C. ADDITIONAL GEF PROJECT AGENCY CERTIFICATION (APPLICABLE ONLY TO NEWLY ACCREDITED GEF PROJECT AGENCIES)

For newly accredited GEF Project Agencies, please download and fill up the require

¹³ For regional and/or global projects in which participating countries are identified, OFP endorsement letters from these countries are required even though there may not be a STAR allocation associated with the project.

¹⁴ GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, and SCCF

