



# PROJECT IDENTIFICATION FORM (PIF)<sup>1</sup>

PROJECT TYPE: Full-sized Project

TYPE OF TRUST FUND: GEF Trust Fund

## PART I: PROJECT IDENTIFICATION

Project Title:	Minimizing Formation and Releases of Unintentionally Produced POPs (UPOPs) from China's Pulp and Paper Sector		
Country(ies):	China	GEF Project ID: <sup>2</sup>	4441
GEF Agency(ies):	WB (select) (select)	GEF Agency Project ID:	P125528
Other Executing Partner(s):		Submission Date:	2011-01-15
GEF Focal Area (s):	Persistent Organic Pollutants	Project Duration (Months)	
Name of parent program (if applicable): ➤ For SFM/REDD+ <input type="checkbox"/>		Agency Fee (\$):	1,500,000

### A. FOCAL AREA STRATEGY FRAMEWORK<sup>3</sup>:

Focal Area Objectives	Expected FA Outcomes	Expected FA Outputs	Trust Fund	Indicative Grant Amount (\$)	Indicative Co-financing (\$)
(select) CHEM-1	Outcome 1.3 POPs releases to the environment reduced	Output 1.3.1 Action plans addressing un-internationally produced POPs under development and implementation	GEFTF	13,800,000	56,400,000
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)	Others		(select)		
Sub-Total				13,800,000	56,400,000
Project Management Cost <sup>4</sup>			(select)	<b>1,200,000</b>	3,600,000
<b>Total Project Cost</b>				<b>15,000,000</b>	<b>60,000,000</b>

### B. PROJECT FRAMEWORK

<b>Project Objective: The project's objective is to minimize formation and releases of UPOPs from China's pulp and paper sector through investments in BAT/BEP adoption for non-wood pulp production, adoption of necessary policy measures, and support to national and local enforcement of industrial and environmental policies.</b>						
Project Component	Grant Type	Expected Outcomes	Expected Outputs	Trust Fund	Indicative Grant Amount (\$)	Indicative Cofinancing (\$)
1. BAT/BEP investment in selected non-wood fiber mills	Inv	1. Grams of UPOPs release reduced at the selected mills 2. Updated UPOPs emission factors for non-wood pulp	1. BAT/BEP for four major non-wood pulps tested at the selected mills 2. UPOPs analysis for the production of major non-wood pulp, before and after	GEFTF	10,300,000	39,150,000

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

<sup>2</sup> Project ID number will be assigned by GEFSEC.

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

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

		production 3. Demonstrated BAT/BEP ready for sector-wide adoption	BAT/BEP adoption 3. Disseminated BAT/BEP operational manuals of the participating mills			
2. National action plan development and implementation	TA	1. Effective policy control over UPOPs releases from the sector 2. Improved BAT/BEP adoption in the sector 3. Improved R&D capacity for providing affordable technologies and equipment 4. Grams of UPOPs release reduced from additional mills 5. Supportive attitudes and behaviors of the sector and the public on minimizing UPOPs releases from the sector	1. Updated industrial and environmental policies, guidance and standards 2. BAT/BEP guidelines developed, disseminated 3. Key technologies transferred, digested and commercialized 4. A targeted action plan with enforceable policies and financial incentives 5. Voluntary adoption of BAT/BEP in additional mills 6. Improved awareness of the sector and general public on reduction in UPOPs releases	GEFTF	1,680,000	14,060,000
3. Institutional strengthening and capacity building	TA	1. Coordinated government efforts 2. Improved capacity to monitor UPOPs releases from the sector 3. Improved capacity for sector wide BAT/BEP applications 4. Improved capacity to enforce UPOPs reduction policy for the sector	1. Established inter-agency coordination mechanism 2. Trained in the order of 15 laboratories on UPOPs monitoring for industry 3. Trained 20 industrial design institutions on BAT/BEP 4. Trained relevant agencies on UPOPs enforcement	GEFTF	1,050,000	1,690,000
4. Monitoring and evaluation	TA	1. Sustained and demonstrated releases of UPOPs from the sector	1. Routine inspection, supervision and monitoring of UPOPs releases from the sector	GEFTF	770,000	1,500,000
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
Sub-Total					13,800,000	56,400,000
Project Management Cost <sup>5</sup>				GEFTF	1,200,000	3,600,000
<b>Total Project Costs</b>					<b>15,000,000</b>	<b>60,000,000</b>

**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	National Government	Grant	3,750,000
Private Sector	Participating mills to be selected	Unknown at this stage	56,250,000

<sup>5</sup> Same as footnote #3.

(select)		(select)	
(select)		(select)	
(select)		(select)	
(select)		(select)	
(select)		(select)	
(select)		(select)	
(select)		(select)	
(select)		(select)	
<b>Total Cofinancing</b>			60,000,000

**D. GEF/LDCF/SCCF RESOURCES REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY<sup>1</sup>**

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

<sup>1</sup> 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

<sup>2</sup> 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:

This project is consistent with the GEF V POP focal area strategies in that it supports physical investments and capacity development for reduction of UPOPs releases from China's pulp and paper sector. It fits well with Strategic Objective 1 (SO-1): Phase out POPs and Reduce POPs releases, as implementation of the project will lead to reduction and, where possible, elimination of UPOPs releases, thereby supporting China's NIP implementation to effectively phase out and reduce future releases of UPOPs from its pulp and paper sector.

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

N/A

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

China's National Implementation Program for the Stockholm Convention on Persistent Organic Pollutants (NIP) lists the pulp and paper sector as one of six priority sectors to be targeted for control of UPOPs releases. In line with guidance contained in the NIP and its 11<sup>th</sup> Five Year Plan (FYP), the project will be designed and implemented as an integral part of the country's efforts to improve the environmental performance of the sector. Specifically, the project will support implementation of the NIP by promoting BAT/BEP adoption and thus, minimize UPOPs releases from the sector. In addition, by reducing UPOPs and COD (chemical oxygen demand) discharge from the sector, the project will support directly the implementation of the 11<sup>th</sup> FYP, as well as the associated Energy Conservation and Pollution Reduction Plan, which calls for a 10% reduction in COD discharge from 2006 to 2010, and further reductions through 2020.

### **B. PROJECT OVERVIEW:**

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

According to the NIP of China (2007), in 2004 about 10.2 kg TEQ UPOPs were released to the environment, of which approximately 6.18 kg TEQ UPOPs were released from various industrial processes (mainly metal production, power generation and cement production). Drawing from among the industrial processes concerned, the NIP has identified the pulp and paper sector as one of six priority sources for UPOPs control based on the following considerations: (a) the sector is a major source of water pollution, as well as one of the highest energy consumption industrial sectors, attracting national attention since the 1990s; (b) the sector is expected to maintain a high growth rate in the next decade; (c) the BAT/BEP guidelines have recommended BAT/BEP options for the sector; and (d) the sector is the largest UPOPs source under the Source Category of Production and Use of Chemicals and Consumer Goods. It is estimated that in 2004 about 161 g TEQ UPOPs were released from this sector.

High UPOPs releases from China's pulp and paper sector are a direct result of elemental chlorine-based pulp and paper production processes widely used in the sector, in particular for non-wood pulp production. Elemental chlorine-based production technologies, and the low production capacity of many mills in the pulp and paper sector, have further resulted in excessive consumption of water and energy, as well as serious environmental pollution. This is evidenced by the fact that in 2006, the sector contributed only 1.5% of total national industrial outputs but released in the order of 16% of total industrial wastewater and 33% of industrial COD discharge (and more than 20% of total COD releases of China). Within the sector, non-wood pulp based mills account for approximately 60% of COD pollution in the sector.

To control pollution from the sector, the Government of China has endorsed industrial

restructuring by promoting the following initiatives: (a) concentration of pulp and paper production capacity, (b) closure of mills that cannot meet environmental standards due to their low production capacity and lack of economies of scale, and (c) promotion of wood-pulp based production through adoption of a “forest and paper integration” policy that encourages forest plantation, utilization of recycled fiber materials and importation of wood and recycled fiber materials. Specifically, the Government of China has issued multiple industrial policies and environmental and technical standards to encourage the merger of small mills, support the closure of small scale mills, and ban the use of elemental chlorine-based technology for new mills, as well as promote development of large wood-pulp-based modern mills. However, such efforts have faced serious challenges, for China remains a country of limited forestry resources and therefore, relies heavily on the use of non-wood fiber materials for its pulp and paper production.

In 2006, non-wood pulp accounted for about 23% of total pulp and over 70% for virgin pulp produced in China. Four major non-wood fiber materials accounted for 95% of total non-wood fiber materials used in 2006: straw 65%; bamboo 12%; reed 11%; and bagasse 7%. More significantly, it is estimated that about 8 million jobs (mainly in rural areas) are directly and indirectly dependent on the non-wood pulp and paper industry. Clearly, the economic and social role of the non-wood pulp and paper mills cannot be undervalued.

The China Paper Association has identified two major factors that have prevented the sector from eliminating elemental chlorine-based production: (a) absence of economically and technologically tested BAT/BEP options, and (b) concerns over potential loss of competitiveness as a result of increased production costs after BAT/BEP adoption. To assist China to control UPOP releases from its pulp and paper sector, this project aims to identify and pilot various BAT/BEP options at selected mills with production based on the four aforementioned non-wood fiber materials (straw, bamboo, reed and bagasse). Positive results of BAT/BEP adoption will be disseminated within the sector to further support the Government’s efforts to control pollution, in particular, UPOPs, from the sector.

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

Without GEF support, it is foreseeable that China will continue its efforts to restructure its pulp and paper sector to improve the sector’s economic and environmental performance. In particular, this effort will center on closure of small mills and promotion of large mills with proper wastewater treatment facilities. Such as business-as-usual (BAU) scenario will face difficulties in limiting UPOPs releases from the non-wood pulp mills segment of the sector as BAT/BEP options have yet to be tested both technologically and financially in China’s non-wood pulp mills sector. Furthermore, it is predicted that very limited efforts on monitoring UPOPs releases from the sector could be expected, which would lead to inadequate enforcement of newly developed UPOPs policies and standards for pulp and paper production. Simply stated, it is foreseeable that UPOPs issues would be simply ignored under a BAU scenario.

With support from the GEF, the project will support identification, demonstration, and promotion of BAT/BEP for non-wood pulp mills, and will promote strong inter-agency coordination at the national level for enhanced sustainable development within the sector. By supporting monitoring capacity development and routine UPOPs monitoring, the proposed project will assist China to properly measure UPOPs releases from its pulp and paper sector and thus, effectively enforce its industrial and environmental policies and standards. Based on such activities, the project is expected to help China effectively restructure its pulp and paper sector, improve the sector’s economic and environmental performance, and minimize UPOPs

releases from the sector.

This project is expected to generate multiple benefits for the global environment as it will not only lead to a reduction in UPOPs releases from the sector, but will also reduce the sector's water consumption and wastewater (in particular, COD) discharge. The reduction in COD discharge will greatly benefit the East Asia large marine ecosystem, as the majority of pulp and paper mills are located in East China and discharge their wastewater into rivers that flow into East Asia's seas.

- 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) or adaptation benefits (LDCF/SCCF). As a background information, read [Mainstreaming Gender at the GEF.](#)":

Successful implementation of this project will lead to significant socioeconomic benefits given that China's non-wood pulp and paper industry is directly and indirectly related to 8 million jobs with a strong rural bias. First, it will help the non-wood pulp and paper sector find practical solutions to continue developing and providing sustainable income to the rural farm populations who supply the mills with non-wood fiber materials. Second, it will also provide a solution to help non-wood fiber mills reduce their levels of water pollution, which in turn will provide clean surface water for other productive uses. And lastly, it will mitigate human health issues related to the release of UPOPs and other pollutants. Such socioeconomic outcomes will benefit both genders of the population working in the sector and living around the sector's production facilities.

- 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:

Two risks may prevent the project objectives from being achieved: (1) failure to successfully test identified BAT/BEP options for non-wood pulp mills; and (2) failure to promote sector-wide adoption of tested BAT/BEP options. To mitigate the first risk, technical, economic and environmental analyses will be carried out to carefully review technical and financial feasibility of various BAT/BEP options. In addition, a set of selection criteria will be developed and agreed upon among all stakeholders to ensure that participating mills have sufficient financial resources and the technical capacity to carry out investment activities.

To mitigate the second risk, the project will support capacity development through close stakeholder consultation to build effective support for enforcement of national industrial and environmental policies. In addition, the project will also introduce, as necessary, new and enforceable policies, complemented by financial incentives, under the to-be-developed national action plan in order to motivate non-wood pulp mills to comply with the national policies.

- 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:

Key Stakeholders	Roles
Ministry of Finance	(a) as the Country GEF Focal Point, review, endorse and supervise preparation and implementation of this proposal; and (b) receive and supervise uses of the GEF grant.
Ministry of Environmental Protection (MEP)	(a) ongoing management of implementation of the NIP and management of the project; (b) issue national policy and standards to regulate environmental performance of China's pulp and paper sector; (c) supervise enforcement of environmental policies; (d) supervise disclosure of

	environmental information
Local environmental protection bureaus	(a) monitor environmental performance of the pulp and paper industry within the jurisdiction; (b) enforce environmental policies; (c) disclose environmental information; (d) issue local environmental policies and standards
National Development and Reform Commission	(a) issue and enforce national industrial policies
Local development and reform commission	(a) issue local industrial policies; (b) enforce industrial policies
China Paper Association	(a) coordinate and support compliance actions within the sector; (b) facilitate information exchanges among members; (c) facilitate formulation of sector development strategies
Participating Pulp and Paper Mills	(a) participate in project activities; (b) carry out UPOPs reduction investment; (c) comply with national and local environmental policies and standards
Public	(a) improve consumers' awareness on UPOPs issues related to the pulp and paper sector; (b) exercise consumers' rights to influence environmental performance of the sector

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

The implementation of the Stockholm Convention in China has been supported by various multilateral and bilateral organizations. With this support, China has completed its NIP, and based on the strategic guidance it contains, prepared nine POPs projects, six of which are under implementation. To facilitate consultation, coordination and collaboration among all stakeholders, China has set up a Technical Coordination Group (TCG) for its NIP preparation and implementation. Through the TCG, China has maintained good communication with its multilateral and bilateral development partners.

With respect to the pulp and paper sector, China has benefited from a Sino-Italian cooperation project which has allowed for the measurement of UPOPs releases from two large Chinese mills. The experiences of that project will be reflected in the design of the project being proposed. As of September 2008, China had initiated new cooperation with the Government of Sweden to learn from, and adopt, its experience in regulating BAT/BEP applications in the wood pulp based mills. Preparation and implementation of the proposed GEF project will be closely coordinated with the ongoing bilateral project.

This project will in no way duplicate any of the six POPs projects underway, or any other new POPs projects China may plan to prepare, as the government has elected to focus this project on only one particular industrial source of UPOPs releases – pulp and paper production. Indeed, this initiative would represent the first GEF project in the world to launch work on reducing UPOPs releases from the pulp and paper sector.

Experiences and lessons learned from preparation and implementation of other POP projects in China will benefit the design and implementation of this proposed project.

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

The World Bank has rich experience in the pulp and paper sector and its associated environmental issues. In 1996, the World Bank issued a technical document on pollution prevention and abatement in pulp and paper mills. In 2007, the International Finance

Corporation (IFC) of the World Bank Group issued Environmental, Health and Safety Guidelines for pulp and paper mills. In China specifically, the World Bank, through the IFC, supported a technical assistance (TA) study to assist China to develop a roadmap for sustainable development for China's non-wood pulp and paper industry (China: Technical Assistance for the Sustainable Development of the Non-Wood Pulp and Paper Industry, 2006).

In terms of investment, the IFC has financed development, or expansion, of a number of pulp and paper mills in China, and in one case, associated forest plantations. Under the Bank's China energy efficiency projects, support has been provided for energy efficiency investments in a few pulp and paper making facilities through domestic financial intermediaries.

With regard to POPs, the Bank has supported China through its trust fund resources to build up its capacity in developing its NIP and preparing GEF POPs projects since 2002. The Bank has helped China prepare and implement three out of the country's nine active POPs projects.

Recognizing the value-added contributed by the Bank through prior and ongoing cooperation under this focal area, the Government of China has requested the Bank to serve as the implementing agency for this project. This project is considered to fit well with the World Bank's comparative advantages, as defined in Comparative Advantages of GEF Agencies (rev 6-18-2007). Specifically, the project's BAT/BEP demonstration component, which will require significant investment, is in line with the World Bank's comparative advantage on investment interventions and its long-term engagement with China's pulp and paper sector.

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

Potential co-financing from the Bank will be explored during project preparation. The Bank will help the selected pulp and paper mills to identify potential opportunities to work with the Bank's China Energy Efficiency Financing Projects and ongoing and potential IFC investments.

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:

This project is consistent with the objectives of the World Bank's Environmental Strategy and the Bank's China Country Partnership Strategy (CPS, 2006-2010). Specifically, the project will assist China to comply directly with the Stockholm POPs Convention, compliance with which is listed as one of the key actions of Pillar 3 of the CPS, Managing Resource Scarcity and Environmental Challenges. The Bank recognizes that the Government of China "has ... made commitments under international environmental conventions (on ... POPs)" and is committed to help China meet its obligations under the Stockholm Convention on POPs and other international environmental conventions.




**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)
Jiandi Ye	GEF Operational Focal Point for China	FINANCE	9/3/2010

**B. GEF AGENCY(IES) CERTIFICATION**

<b>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.</b>					
Agency Coordinator, Agency name	Signature	DATE (MM/dd/yyyy)	Project Contact Person	Telephone	Email Address
Karin Shepardson, The World Bank		02/15/2011	Jiang Ru	202-473-8677	jru@worldbank.org