

1. Project Data

Summary project data			
GEF project ID		2926	
GEF Agency project ID		UNIDO ID: 104147	
GEF Replenishment Phase		GEF-4	
Lead GEF Agency (include all for joint projects)		United Nations Industrial Development Organization (UNIDO)	
Project name		Environmentally sound management and disposal of obsolete POPs pesticides and other POPs (Persistent organic pollutant) wastes in China	
Country/Countries		China	
Region		Asia and the Pacific	
Focal area		GEF Operational Program on POPs– OP 14	
Operational Program or Strategic Priorities/Objectives		Operational program on Persistent Organic Pollutants (OP#14)	
Executing agencies involved		MEP/Foreign Economic Cooperation Office (FECO) China Ministry of Environmental Protection (MEP) (Government Coordinating Agency)	
NGOs/CBOs involvement		Project engaged with local NGOs to promote good governance, increase effectiveness and raise public awareness on POPS	
Private sector involvement		Provided Co-financing, ownership of project from participating firms	
CEO Endorsement (FSP) /Approval date (MSP)		15/12/2008	
Effectiveness date / project start		4/4/2009	
Expected date of project completion (at start)		April 2014 (5 years)	
Actual date of project completion		30/6/2018 (TE, p17) vs “Scheduled to close on December 31, 2018” (TE, p11)	
Project Financing ¹			
		At Endorsement (US \$M)	At Completion (US \$M)
Project Preparation Grant	GEF funding	.231	.43
	Co-financing	.545	
GEF Project Grant		9.9	9.9
Co-financing	IA own	.1	.1
	Central Government (MEP)	8.2	8.4
	Local Environmental Protection Bureaux (EPBs, Waste Management Industry)	7.3	0.51
	Other multi- /bi-laterals		
	Private sector	16.9	71
	NGOs/CSOs		
Total GEF funding		10.1	10.1
Total Co-financing		32.6	79.9
Total project funding (GEF grant(s) + co-financing)		42.8	90
Terminal evaluation/review information			

¹ CEO Endorsement Document, Table C; TE Report, p71 and 167-168

TE completion date	October 2018
Author of TE	Aaron Zazueta & Guorui Liu
TER completion date	1/1/2020
TER prepared by	Mourad Shalaby
TER peer review by (if GEF IEO review)	Molly Watts Sohn

2. Summary of Project Ratings

Criteria	Final PIR	IA Terminal Evaluation	IA Evaluation Office Review	GEF IEO Review
Project Outcomes	NA	HS	-	HS
Sustainability of Outcomes		HS	-	ML
M&E Design		HS	-	S
M&E Implementation		HS	-	HS
Quality of Implementation		HS	-	HS
Quality of Execution		HS	-	HS
Quality of the Terminal Evaluation Report		-	-	S

3. Project Objectives

3.1 Global Environmental Objectives of the project:

The project's overall objective was "to implement environmentally sound management (ESM) and disposal of 10,000 tons of accumulated POPs pesticide wastes and 1,000 tons of dioxin-rich incinerator fly-ash in fulfillment of China's obligations under the Stockholm Convention." (TE, p11)

3.2 Development Objectives of the project:

The project's development objective was to achieve "an important reduction of risks to human populations and the environment through the removal of harmful POPs" and to make "important contributions to the transformation towards a sound system for the management of POPs in China" (TE, p11).

The project planned to achieve this objective through five project components:

Component 1: Strengthened legal and regulatory framework for environmentally sound management (ESM) and disposal of POPs wastes

Component 2: Improved institutional capacity at all levels of POPs waste disposal management

Component 3: Environmentally sound disposal of targeted POPs pesticide waste and dioxin rich incinerator fly ash

Component 4: Qualitative environmental risk assessment (QERA) site prioritization

Component 5: Project management, monitoring and evaluation

3.3 Were there any **changes** in the Global Environmental Objectives, Development Objectives, or other activities during implementation?

There were no changes in the Global Environmental Objectives, Development Objectives, or other activities during implementation.

4. GEF IEO assessment of Outcomes and Sustainability

Please refer to the GEF Terminal Evaluation Review Guidelines for detail on the criteria for ratings.

Relevance can receive either a Satisfactory or Unsatisfactory rating. For Effectiveness and Cost efficiency, a six point rating scale is used (Highly Satisfactory to Highly Unsatisfactory), or Unable to Assess. Sustainability ratings are assessed on a four-point scale: Likely=no or negligible risk; Moderately Likely=low risk; Moderately Unlikely=substantial risks; Unlikely=high risk. In assessing a Sustainability rating please note if, and to what degree, sustainability of project outcomes is threatened by financial, sociopolitical, institutional/governance, or environmental factors.

Please justify ratings in the space below each box.

4.1 Relevance	Rating: Satisfactory
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The TE rates the project results as “highly relevant to China and the Stockholm Convention on Persistent Organic Pollutants (POPs), UNIDO and the GEF” (TE, p55), and this TER which uses a different scale rates relevance as satisfactory. China’s large agricultural sector depends heavily on agro-chemicals, including POPs, which were banned in 2009. Nonetheless, historical stockpiles of these pesticides “continue to pose significant risks to human health and the environment” (TE, p55). The project “helped China in the elimination and disposal of POPs pesticides and associated waste” (TE, p55) and the project’s attention to the treatment of fly ash “is particularly relevant and has a wide applicability in China, as fly ash has become the one of biggest sources of solid industrial waste in the country” (TE, p55).

The TE states that “The project results are rated as highly relevant to the GEF, since they directly address the destruction of POPs listed in Part I Annex C of the Stockholm Convention” (TE, p56). The project is also relevant under GEF Operational Program 14 (OP#14), whose stated objective is “to provide assistance, on the basis of incremental costs, to developing countries and countries with economies in transition to reduce and eliminate releases of POPs into the environment” (GEF OP#14).

4.2 Effectiveness	Rating: Highly satisfactory
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The TE rates the project’s effectiveness as “highly satisfactory” and this TER also rates effectiveness as highly satisfactory, given that “The project met or exceeded all outputs promised at entry”, specifically results were exceeded in “23% of the expected outputs”, such as the amount of disposed POPs waste and fly ash. The project “addressed all 17 barriers to the sound management of POPs in China that had been identified during project preparation” and “made major contributions to the establishment of the conditions needed to transform the management of POPs pesticides in China”. The project supported the development of policy instruments, tested or introduced technologies to dispose of POPs, tested approaches to develop capacities of provincial, municipal and city governments for effective management of POPs, and contributed to the state of knowledge on POPs management through 10 applied scientific publications (TE, p60).

Achievements under the projects originally planned outcomes are listed below:

Component 1: Strengthened legal and regulatory framework for environmentally sound management (ESM) and disposal of POPs wastes

This project helped strengthen the regulatory framework for the sound management of obsolete POPs pesticides and wastes. The project activities “addressed all 17 barriers to the sound management of POPs in China”, these barriers pertaining to issues related to legal and regulatory systems and institutional capacities, among others, and supported the development of “30 policy instruments that included regulations and standards at the national, provincial, county and city scales” (TE, p60). The project succeeded in addressing barriers at different scales (national, provincial, county) while involving

key stakeholders from the government, business and academic sectors. As a result, the project “was able to test and establish legal, regulatory and administrative functions at the different scales” (TE, p65). Furthermore, the project helped the Chinese government “establish [...] a legal and regulatory framework that specifies reporting responsibilities of POPs, and [...] establish [...] country standards for dioxins in fly ash comparable to the standards in developing countries” (TE, 67). The project also helped strengthen the policy and regulatory framework “which clarified procedures and standards and provided incentives to adopt the new technologies” related to POPS removal. The TE adds that “The establishment of a regulatory framework for the sound management of obsolete POPs has promoted the identification of obsolete POPs and their sound disposal in 13 provinces and cities” (TE, p11).

Component 2: Improved institutional capacity at all levels of POPs waste disposal management

The institutional capacity for the destruction of POPs and other hazardous wastes in 2 provinces targeted by the project has been established through, notably, significant investment of private partners. The project supported capacity development at multiple levels and sectors, such as “capacity building of the staff handling the waste but also for the management of the facilities” (TE, p78). The TE adds that “The project simultaneously helped to develop capacities in the public sector on regulation, enforcement, stakeholder engagement and coordination across levels of government and sectors” (TE, p74). Overall, the project helped address challenges posed by POPs and fly ash contamination by building China’s capacities to address the release of unintentionally produced POPs.

Component 3: Environmentally sound disposal of targeted POPs pesticide waste and dioxin rich incinerator fly ash

The project ensured that a series of regulations and technical guidelines for the environmentally sound management and disposal of POPs wastes were promulgated. The project was successful in disposing, in an environmentally sound way, of significant POPs pesticides and pesticides wastes which “reduced the health risks to a population ranging from 4.3 million to over 15 million people” (TE, p11). The project’s “establishment of a regulatory framework for the sound management of obsolete POPs has promoted [...] their sound disposal in 13 provinces and cities” (TE, p11). This was achieved through “identification and characterization of POPs wastes at target sites, collection of those wastes, containment for safe storage and transportation, transportation of wastes to designated treatment facilities, and survey of hot spot sites to confirm their successful remediation” (TE, p163).

Component 4: Qualitative environmental risk assessment (QERA) site prioritization

The project ensured that many technical guidelines for the identification and risk assessment of POPs contaminated sites were promulgated and enforced “at all levels” (TE, p27). The project developed a database for reporting the QERA information of POPs contaminated sites, and a “project-fit methodology, including QA/QC procedures for quantitative environmental risk assessment (QERA)” in the 2 targeted provinces (TE, p149). The project carried out inventories of POPS contaminated sites, environmental safety assessments on storage points of POPs wastes, and site risk assessments for pesticide plants (TE, p152). The project also designed an “Internet-based system to process and display QERA results and facilitate modeling of environmental risks and remediation decision-making” (TE, p152).

4.3 Efficiency	Rating: Satisfactory
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The TE rates project efficiency as highly satisfactory. This TER rates the project’s efficiency as satisfactory. The project received three extensions amounting to four years and eight months, for a total duration of the project of eight years and eight months. This is longer than the average duration of an

UNIDO GEF project, which is six years (GEF 2017). These delays were due to developments in the focus region that emerged during implementation. Nonetheless, the TE states that “the extension of the project was an important factor contributing to its success”. The cost of project execution was also higher than initially expected, calculated at USD 660,000 as opposed to the USD 475,000 initially budgeted. This cost can be explained in part due to the project extensions. However, the TE states that “this additional cost is relatively small when considering the extent to which the project exceeded expected results” (TE p63). The desirable co-financing ratio for GEF is 6:1, while this project achieves an 8:1 co-financing ratio. The TE adds that “the per-unit costs of disposal were much lower than initially expected”, the project benefits were amplified by “the adoption of an industrial-scale approach and the co-financing contributions from the central and local governments and the participating firms” and “the technologies that were tested and adapted by the project were considerably more efficient than alternative technologies”. Furthermore, the TE states that the project had a broad reach, and that “Only 15% of GEF projects implemented by different agencies in all over the world reach such levels of accomplishment” (TE, p64). Despite the delays and added project cost, the project’s successful impact and management of time and resources justify the “satisfactory” rating.

4.4 Sustainability	Rating: Moderately likely
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The TE rates sustainability of benefits as highly satisfactory. The TE provides analysis by risk, the 4 assessed risks being Institutional and governance, Socio political, Financial and Environmental.

Sociopolitical risks: The TE states that “sociopolitical risks to the process of transformation are low”. There is strong popular support of addressing pollution in metropolitan areas in China and political and economic incentives for China’s numerous cement factories to dispose of dioxins in fly ash (TE, p67).

Institutional framework and governance risks: The TE states that “Institutional and governance risks are rated as low”. The Chinese government has an established “legal and regulatory framework that specifies reporting responsibilities of POPs”, and “Training and awareness raising have also significantly improved institutional regulatory and enforcement capacity at the national level and in the provinces and localities where the project operated” (TE, p67).

Financial risks: The TE states that “Financial risks are rated as low”, highlighting the above-mentioned political and economic incentives for cement companies to adopt co-processing fly ash treatment technology (TE, p67).

Environmental risks: The TE rates environmental risks as “moderate”, due to the extreme temperatures needed to treat fly ash in cement factories and the potential toxicity of the heavy metals of tested building material resulting from fly ash. The project did introduce “a host of regulations and procedures to ensure the sound management of fly ash and POPs pesticide disposal” (TE, p67).

5. Processes and factors affecting attainment of project outcomes

5.1 Co-financing. To what extent was the reported co-financing essential to the achievement of GEF objectives? If there was a difference in the level of expected co-financing and actual co-financing, then what were the reasons for it? Did the extent of materialization of co-financing affect project’s outcomes and/or sustainability? If so, in what ways and through what causal linkages?

The TE states that this project had “high levels of co-financing (USD 80 million) which was more than twice the planned co-financing at project design (USD 32 million)” (TE, p12). This co-financing had several sources (local and national government, private sector, industry). As noted in the efficiency section, the co-financing ratio of this project, 8:1, easily exceeded the GEF’s desirable co-financing ratio

of 6:1. This helped “stretch the benefits derived from the GEF grant” as “the large co-financing realized by the project [...] was an important factor in the high level of impact the project achieved” (TE, p63). These high levels of co-financing “are an indicator of the effectiveness of FECO (Foreign Economic Cooperation Office of China) in promoting the project. FECO’s intense promotion and dedicated management were important factors contributing to the project success” (TE, p70). As such, “Ownership among the different levels of the public administration and among the participating firms proved to be critical factor to the project accomplishments” (TE, p12).

5.2 Project extensions and/or delays. If there were delays in project implementation and completion, then what were the reasons for it? Did the delay affect the project’s outcomes and/or sustainability? If so, in what ways and through what causal linkages?

As stated in the efficiency section, the project received three extensions amounting to four years and eight months. These delays were due to developments in the focus region that emerged during implementation, such as clean-ups of industrial areas, negotiations for the acquisition of a cement plant by the City of Xiangtan that affected the project, and lengthy tendering processes for the selection of companies that participated in the treatment of fly ash and related disposal of dioxins (TE, p62). Nonetheless, the TE states that “the extension of the project was an important factor contributing to its success” (TE, p64), as “The additional time allowed the project management to address the unforeseen developments and to manage risks in ways that prevented downstream problems”. As such, the delays positively affected the project’s outcomes and sustainability, broadening the project’s reach, impact, and sustainability.

5.3 Country ownership. Assess the extent to which country ownership has affected project outcomes and sustainability? Describe the ways in which it affected outcomes and sustainability, highlighting the causal links:

As noted in question 5.1, “a high level of country ownership [...] was a critical assumption sustained throughout the project. Ownership among the different levels of the public administration and among the participating firms proved to be critical factor to the project accomplishments, (clearly apparent in the high levels of co-financing realized by the project)” (TE, p75). As such, the country’s ownership of the project, both at the government (local and national) and private sector level, boosted the project’s reach, impact and sustainability.

6. Assessment of project’s Monitoring and Evaluation system

Ratings are assessed on a six point scale: Highly Satisfactory=no shortcomings in this M&E component; Satisfactory=minor shortcomings in this M&E component; Moderately Satisfactory=moderate shortcomings in this M&E component; Moderately Unsatisfactory=significant shortcomings in this M&E component; Unsatisfactory=major shortcomings in this M&E component; Highly Unsatisfactory=there were no project M&E systems.

Please justify ratings in the space below each box.

6.1 M&E Design at entry	Rating: Satisfactory
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The TE rates M&E Design and Implementation jointly as highly satisfactory, stating that “The project document included a detail description of the project’s M&E activities. These included quarterly and annual reports, Project Implementation Reports (PRI) for the GEF, a midterm external evaluation, a

terminal report and a final external evaluation”, adding that “The monitoring system was designed to provide information to learn and adjust project activities. The plan adopted a systematic approach to M&E geared towards informing project implementation”. The TE states that “Some of the line items of the monitoring budget were not sufficiently funded, such as the midterm and final evaluations”, however “During implementation sufficient funding was allocated from all monitoring and evaluation functions, including for the midterm and the final evaluation” (TE, p72). These minor shortcomings justify the “satisfactory” rating given in this TER.

6.2 M&E Implementation	Rating: Highly Satisfactory
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The TE rates M&E Design and Implementation jointly as highly satisfactory, and this TER also rates M&E Implementation as highly satisfactory. The TE states that “The project produced the quarterly and annual reports which management used to keep track of project outputs and targets” and “The midterm evaluation [...] was thorough and technically sound”, adding that “the midterm external evaluation made six recommendations, all of which were addressed by the project in a timely manner”, before concluding that “As result of this careful monitoring, the project can accurately report on the number of tons of POPs and contaminated soil that were treated” (TE, p72).

7. Assessment of project implementation and execution

Quality of Implementation includes the quality of project design, as well as the quality of supervision and assistance provided by implementing agency(s) to execution agencies throughout project implementation. Quality of Execution covers the effectiveness of the executing agency(s) in performing its roles and responsibilities. In both instances, the focus is upon factors that are largely within the control of the respective implementing and executing agency(s). A six point rating scale is used (Highly Satisfactory to Highly Unsatisfactory), or Unable to Assess.

Please justify ratings in the space below each box.

7.1 Quality of Project Implementation	Rating: Highly Satisfactory
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The TE rates UNIDO’s implementation as highly satisfactory. UNIDO carried out regular oversight visits to China during the project, monitoring budget execution and achievement of targets and outputs, among others. UNIDO also assisted the executing agency, FECO, in “the identification of consultations and the transfer of state-of-the-art knowledge of regulations, standards and technology”, and the planning and execution of multiple learning visits to several countries. Furthermore, when the project faced extensions and delays, UNIDO “showed the flexibility and foresight to request the project extensions and to absorb the additional costs these required”. The TE summarizes UNIDO’s implementation as follows: “The ongoing support provided by UNIDO and the continuity in project management were key factors in the outstanding accomplishments of the project” (TE, p70). For these reasons, this TER rates the quality of project implementation as highly satisfactory.

7.2 Quality of Project Execution	Rating: Highly Satisfactory
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The TE rates the project execution as highly satisfactory”, and this TER agrees with that rating. As stated in the project summary data, the project was executed through the Foreign Economic Cooperation Office (FECO) of the Ministry of the Environmental Protection of China. The TE states that “A team

within FECO coordinated the day to day activities of the project and interacted with other stakeholders.” FECO’s involvement in the project “facilitated the promotion of regulations and standards, and the coordination with governmental and business stakeholders across sectors and administrative levels”, while “The FECO project team also ensured the systematic monitoring of quality control at all stages of the process”. The TE adds that the FECO project management team “is mostly credited for the large co-financing realized by the project, which was an important factor in the high level of impact the project achieved”, before concluding that “FECO’s intense promotion and dedicated management were important factors contributing to the project success” (TE, p70). For these reasons, this TER rates the quality of project execution as highly satisfactory.

8. Assessment of Project Impacts

Note - In instances where information on any impact related topic is not provided in the terminal evaluations, the reviewer should indicate in the relevant sections below that this is indeed the case and identify the information gaps. When providing information on topics related to impact, please cite the page number of the terminal evaluation from where the information is sourced.

8.1 Environmental Change. Describe the changes in environmental stress and environmental status that occurred by the end of the project. Include both quantitative and qualitative changes documented, sources of information for these changes, and how project activities contributed to or hindered these changes. Also include how contextual factors have contributed to or hindered these changes.

The TE states that “The project helped reduce risks to human health and the environment by disposing of POPs pesticides and dioxins” (TE, p56), adding that “The project helped China eliminate a larger amount of POPs than expected at project design”, specifically exceeding by five times the pesticide elimination target; by three times the amount of fly-ash dioxins; by four times the expected amount of pesticide POPs waste; and by 80 times the expected fly ash. The TE explains that “These higher than expected results were possible because the project successfully engaged the provincial governments in the disposal of POPs pesticides and was able to introduce the technological changes for dioxin elimination at an industrial scale, developments made possible by the policy incentives promoted by the project.” Importantly, the TE states that “The evaluation found no evidence of negative impacts of the treatment processes on the environment or on human welfare” (TE, p58-60).

8.2 Socioeconomic change. Describe any changes in human well-being (income, education, health, community relationships, etc.) that occurred by the end of the project. Include both quantitative and qualitative changes documented, sources of information for these changes, and how project activities contributed to or hindered these changes. Also include how contextual factors have contributed to or hindered these changes.

In terms of well-being and human health, The TE states that “By the end of 2018, when the project finishes the cleanup of the Nantian Chemical plant in Xiangtan, Hunan province, the project will also have reduced risks of POPs pesticide contamination of the Xiangjiang river which supplies drinking water to an four million people living in the city of Changsha.” This is a major contribution of the project (TE, p11).

In terms of economics, the TE states that BBMG and EMAN, among the largest cement corporations in China, are successfully replicating the co-processing technology by installing a plant with a capacity to process large quantities of fly ash. These two firms “have also identified business models and have filed for patents to replicate and scale up the fly ash processing technologies” (TE, p12).

8.3 Capacity and governance changes. Describe notable changes in capacities and governance that can lead to large-scale action (both mass and legislative) bringing about positive environmental change. “Capacities” include awareness, knowledge, skills, infrastructure, and environmental monitoring systems, among others. “Governance” refers to decision-making processes, structures and systems, including access to and use of information, and thus would include laws, administrative bodies, trust-building and conflict resolution processes, information-sharing systems, etc. Indicate how project activities contributed to/ hindered these changes, as well as how contextual factors have influenced these changes.

Capacities & Governance

This TER evaluates both “capacities” and “governance” in this section. The TE states that prior to the project, China had a “low capacity” and an “absence of infrastructure for environmentally sound management (ESM) and disposal of POPs pesticide wastes”, which posed “significant risks to human health and the environment”. The TE adds that “The project adopted an integrated approach to behavioral change, that focused on the removal of barriers to the adoption of best available technologies and best environmental practices [...] for the management and disposal of POPs and POPs contaminated soils and fly ash” (TE, p11) . The TE also explains that “The project has set up mechanisms that can continue to catalyze change once the project ends. The project provided the principal guidance to provinces and cities for the regulation of POPs and hazardous waste management, which is being adopted with the support of FECO beyond the 13 provinces and cities where the project operated. These regulations, once adopted and mainstreamed, have been critical in generating incentives for cities and companies to adopt new technology”. The TE adds that the project was successful in reaching and exceeding its objectives of strengthening “the legal and regulatory framework for environmentally sound management (ESM) and disposal of POPs waste” and improving the “institutional capacity at all levels of POPs waste disposal management” (TE, p21 and p43).

8.4 Unintended impacts. Describe any impacts not targeted by the project, whether positive or negative, affecting either ecological or social aspects. Indicate the factors that contributed to these unintended impacts occurring.

No unintended impacts of the project are reported, except for the unexpected broader reach and impact of the project on POPs removal and increased capacity of stakeholders to dispose and process POPs and fly ash, as explained in previous sections.

8.5 Adoption of GEF initiatives at scale. Identify any initiatives (e.g. technologies, approaches, financing instruments, implementing bodies, legal frameworks, information systems) that have been mainstreamed, replicated and/or scaled up by government and other stakeholders by project end. Include the extent to which this broader adoption has taken place, e.g. if plans and resources have been established but no actual adoption has taken place, or if market change and large-scale environmental

benefits have begun to occur. Indicate how project activities and other contextual factors contributed to these taking place. If broader adoption has not taken place as expected, indicate which factors (both project-related and contextual) have hindered this from happening.

The TE states that “The evaluation found several indications that mainstreaming is taking place”, namely through technological trials, lessons learned and research supported by the project, which contributed to “30 plans, regulations, standards and guidelines that have been integrated into public administration agencies operating at the national, provincial, city and county levels”. Furthermore, the TE adds that “Participating 49 companies and laboratories in 13 provinces and cities have adopted and applied to the management of hazardous waste the protocols and safety procedures introduced by the project” (TE, p64).

In terms of replication, the TE states that “The firms that adopted fly ash co-processing and cinderling technologies reported that they had taken steps to establish the replication of these technologies.” The TE mentions BBMG, one the largest cement corporations in China, and its replication of certain fly ash processing techniques used throughout the project. The TE adds that “10 additional cities had expressed interest in adopting this technology” (TE, p65).

In terms of scaling-up, the TE mentions the project’s innovative technologies for processing POPs and fly ash, stating that “Researchers in China continue to look for ways to scale up the technology and to explore its use at an industrial scale” (TE, p65). The TE explains that the project’s success, and the country ownership of the project and its main technological processes, has attracted the interest of several other Chinese cities and regions, with several similar planned projects in the works (TE, p 66).

9. Lessons and recommendations

9.1 Briefly describe the key lessons, good practices, or approaches mentioned in the terminal evaluation report that could have application for other GEF projects.

The TE derives three main lessons from the project:

- Successful projects cultivate country ownership: China’s commitments to the Stockholm Convention on POPs, China’s own national priorities concerning solid waste industrial treatment, FECO’s role as the executing agency and the participation of the local private sector all ensured strong country ownership of the project.
- Comprehensive approaches are effective tools to build conditions for transformation: The project produced “a transformation to an environmentally sound POPs management system”, affecting five critical domains, namely “policy and regulatory frameworks, technology, institutional capacities, business models and finances, and information awareness raising”.
- A focus on the industrial application of technology: The TE states that “A significant factor in the project’s high accomplishments is the technological change at an industrial scale (TE, p77).

9.2 Briefly describe the recommendations given in the terminal evaluation.

The TE provides 2 recommendations to the Government of China:

- To ensure that “the proper protocols for feeding of POPs and fly ashes are observed”, thus mitigating negative impacts on human health and the environment. This is especially important during replication

and mainstreaming of the project’s innovative technological processes. Capacity-building and training of relevant staff is necessary to achieve this.

- To carefully assess and manage heavy metals present in fly ash waste and POPs, including long term considerations (TE, p78).

10. Quality of the Terminal Evaluation Report

A six point rating scale is used for each sub-criteria and overall rating of the terminal evaluation report (Highly Satisfactory to Highly Unsatisfactory)

Criteria	GEF IEO comments	Rating
To what extent does the report contain an assessment of relevant outcomes and impacts of the project and the achievement of the objectives?	The report’s assessment of relevant outcomes and impacts of the project is thorough and both quantitative and qualitative. The assessment is precise and details how the project exceeded its initial targets, why and where. It also provides separate and thorough explanations for both POPs and fly ash treatment.	HS
To what extent is the report internally consistent, the evidence presented complete and convincing, and ratings well substantiated?	The report’s assessment of the project’s success and impacts is consistent, while the quantitative evidence to back it up is abundant. The ratings are substantiated adequately, although perhaps inflated in some cases (see efficiency section, TE p62).	S
To what extent does the report properly assess project sustainability and/or project exit strategy?	The report’s sustainability section is thorough. Its analysis of four risks to sustainability is comprehensive, including the moderate environmental risks which are then analyzed in the “Recommendations” section. The report also explains how the project’s technology and processes have been adopted and owned by Chinese cities, provinces and corporations, thus supporting sustainability.	HS
To what extent are the lessons learned supported by the evidence presented and are they comprehensive?	The lessons learned (3) as a result of the project are well explained, although lesson B (“Comprehensive approaches) is somewhat complex, and lesson C (“industrial application of technology”) is lacking information and details.	MS
Does the report include the actual project costs (total and per activity) and actual co-financing used?	The project includes actual total project costs, as well as costs per activity (component). But overall information about project costs is not always clear, as this information is found in 2-3 different sections.	MS
Assess the quality of the report’s evaluation of project M&E systems:	The report’s evaluation of project M&E is rather brief and general, especially the “M&E Design” section, and could have used more detail.	MS
Overall TE Rating		S (5.1)

11. Note any additional sources of information used in the preparation of the terminal evaluation report (excluding PIRs, TEs, and PADs).

No additional sources were used in the preparation of this TER.