

Independent Mid-Term Assessment

**Strengthening Institutions, Regulations
and Enforcement Capacities for Effective
and Efficient Implementation of the
National Implementation Plan (SIRE) -
UNIDO project GF/CPR/07/X01**

People's Republic of CHINA



UNITED NATIONS

INDUSTRIAL DEVELOPMENT ORGANIZATION

UNIDO EVALUATION GROUP

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List of acronyms and abbreviations

BAT	<i>Best Available Technology</i>
BEP	<i>Best Environmental Practice</i>
CDC	<i>Centre for Disease Control and Prevention</i>
CIO	<i>Convention Implementation Office</i>
COP	<i>Conference of Parties</i>
DDT	<i>Dichlorodiphenyltrichloroethane</i>
EPB	<i>Environmental Protection Bureau</i>
FECO	<i>Foreign Economic Cooperation Office</i>
GAC	<i>General Administration of Customs</i>
GEF	<i>Global Environment Facility</i>
HW	<i>Hazardous Waste</i>
IA	<i>Implementing Agency</i>
LCIU	<i>Local Convention Implementation Units</i>
MEP	<i>Ministry of Environmental Protection</i>
MOA	<i>Ministry of Agriculture</i>
MOF	<i>Ministry of Finance</i>
MOFA	<i>Ministry of Foreign Affairs</i>
MOFCOM	<i>Ministry of Commerce</i>
MOHURD	<i>Ministry of Housing and Urban-Rural Department</i>
MOST	<i>Ministry of Science and Technology</i>
MPH	<i>Ministry of Public Health</i>

NDRC	<i>National Development and Reform Commission</i>
NCG	<i>National Coordination Group</i>
NEA	<i>National Executing Agency</i>
NDLG	<i>NIP Development Leading Group</i>
NGO	<i>Non-governmental Organization</i>
NIP	<i>National Implementation Plan</i>
NTCC	<i>National Termite Control Center</i>
SERC	<i>State Electricity Regulatory Commission</i>
SIRE	<i>Strengthening Institutions, Regulations and Enforcement Capacities for Effective and Efficient Implementation of the NIP in China</i>
PCB	<i>Polychlorinated Biphenyls</i>
PIP	<i>Provincial implementation plan</i>
PIR	<i>Project Implementation Reviews</i>
PMO	<i>Project Management Office</i>
POPs	<i>Persistent Organic Pollutants</i>
TCG	<i>Technical Coordinating Group</i>
TOR	<i>Terms of Reference</i>
TTPC	<i>Technology Transfer Promotion Centre</i>
UNEP	<i>United Nations Environment Programme</i>
UNIDO	<i>United Nation Industrial Development Organization</i>
UNITAR	<i>United Nations Institute for Training and Research</i>
UMEP	<i>United States Environmental Protection Agency</i>
UP-POPs	<i>Unintentionally Produced Persistent Organic Pollutants</i>

Glossary of evaluation related terms

Conclusions	: Conclusions point out the factors of success and failure of the evaluated intervention, with special attention paid to the intended and unintended results and impacts, and more generally to any other strength or weakness. A conclusion draws on data collection and analyses undertaken, through a transparent chain of arguments.
Logframe	: Management tool used to improve the planning and design of interventions, most often at the project level, also in literature referred to as LFA – Logical Framework Approach. It involves identifying strategic elements (inputs, outputs, outcomes, impact) and their causal relationships, indicators, and the assumptions or risks that may influence success and failure. It thus facilitates planning, execution and evaluation of a development intervention. Related term: results-based management (RBM)
Outcome	: The likely or achieved short-term and medium-term effects (including policy and institutional changes) of an intervention's outputs, will materialise after the intervention outputs have been delivered. Related terms: result, outputs, impacts, effect
Outputs	: The products, capital goods and services which result from a development intervention (the deliverables); may also include changes resulting from the intervention which are relevant to the achievement of outcomes.
Effectiveness	: The extent to which the development intervention's objectives and deliverables were achieved, or are expected to be achieved, taking into account their relative importance.
Efficiency	: A measure of how economically resources/inputs (funds, expertise, time, etc.) are converted to results/outputs.
Impacts	: Positive and negative, primary and secondary long-term effects produced by a development intervention, directly or indirectly, intended or unintended.
Relevance	: The extent to which the objectives of a development intervention are consistent with beneficiaries' requirements, country needs, global priorities and partners' and donors' policies. Note: Retrospectively, the question of relevance often becomes a question as to whether the objectives of an intervention or its design are still appropriate, given changed circumstances.

Indicator	:	Quantitative or qualitative factor or variable that provides a simple and reliable means to measure achievement, to reflect the changes connected to an intervention, or to help assess the performance of a development actor. Indicators should preferably be measured in quantitative terms, but also qualitative indicators are used.
Institutional development impact	:	The extent to which an intervention improves or weakens the ability of a country or region to make more efficient, equitable, and sustainable use of its human, financial, and natural resources, for example through: (a) better definition, stability, transparency, enforceability and predictability of institutional arrangements and/or (b) better alignment of the mission and capacity of an organization with its mandate, which derives from these institutional arrangements. Such impacts can include intended and unintended effects of an action.
Lessons learned	:	Generalizations based on evaluation experiences with projects, programs, or policies that abstract from the specific circumstances to broader situations. Frequently, lessons highlight strengths or weaknesses in preparation, design, and implementation that affect performance, outcome, and impact.
Recommendations	:	Proposals aimed at enhancing the effectiveness, quality, or efficiency of a development intervention; at redesigning the objectives; and/or at the reallocation of resources. Recommendations should be linked to conclusions
Results	:	The output, outcome or impact (intended or unintended, positive and/or negative) of a development intervention at various levels and points in time. Related terms: outcome, effect, impacts
Sustainability	:	The continuation of benefits from a development intervention after major development assistance has been completed. The probability of continued long-term benefits. The resilience to risk of the net benefit flows over time.

Executive summary

Introduction

This document contains the report of the Mid-Term Evaluation of the Global Environment Facility (GEF) project entitled “Strengthening Institutions, Regulations and Enforcement Capacities for Effective and Efficient Implementation of The National Implementation Plan In China (SIRE).” The project has a total budget of USD 15,235,000, of which USD 5,410,000 is GEF grant, USD 8,125,000 is supported by the Italy and Government of China, and USD 1,700,000 as in-kind contributions by UNIDO, public institutes and other sectors in China. The Ministry of Environmental Protection (MEP) of China, through its Convention Implementation Office (CIO) located within Project Management Division V, is the National Executing Agency, and the United Nations Industrial Development Organization (UNIDO) is the International Implementing Agency of this project. The project was approved by the GEF Council on June 14, 2007 and GEF CEO Endorsement was communicated to UNIDO in November, 2007.

The main objectives of SIRE project were to assist China: (i) to effectively and efficiently implement the Stockholm Convention by strengthening the institutions, regulations and enforcement and to enhance the capacities for the sound management of POPs at national and local levels; and (ii) to create an enabling environment in China by establishing/amending laws, regulations and standards, strengthening institutions for monitoring, improving research and development (R&D), promoting technology transfer, facilitating data and information collection, enhancing supervision, enforcement and evaluation for continuous improvement and awareness raising of stakeholders on POPs issues.

Evaluation background

The Mid-Term Evaluation was carried out in Jan - March following the GEF guidelines for independent evaluations of full sized projects and was carried by a team of two evaluators: Mr. Nee Sun Choong Kwet Yive (Team Leader), and Mr. Jianxin ZHU (National evaluation consultant). After a review of project documentation, a two weeks evaluation mission was undertaken to China and several institutions and project demonstration cities were visited (see program of evaluation mission in the annex). UNIDO as well as counterpart staffs were interviewed.

, in particular during a two-week field visit in China by the International and National Consultants 13 - 26 Jan 2011. The evaluation covers progress and activities following the signature of the UNIDO ProDoc by the National Executing Agency and the International Implementing Agency, up to December 2010, approximately the midpoint of the five year project implementation. It was based on desk review of the project document, documentation, and reports and on inputs from face-to-face discussions and interviews with project partners during the field visit mission in China. This evaluation report mainly presents the findings and recommendations of the Mid-Term Evaluation in Section 3 and Section 4.

Project design:

The project document in general is of good quality with relevant and concise information. The design of the SIRE project is coherent with the priority actions set in the NIP as essential and indispensable prerequisites for the smooth implementation of the Stockholm Convention in China. Project design was also consistent with China’s 11th Five-Year Program (2006-2010), which could constitute the project baseline for project reviews and linkages with national development plans. The project meets the national requirements to establish targets for “boosting the optimization and upgrade of industrial structure”, “building up a resource-efficient and environment-friendly society”, and “promoting circular economy”.

Project Management:

The project applied a mixed form of agency execution and the national and regional execution is proving to be an efficient approach (as compared to full agency execution). The guidance from the UNIDO Project Manager (PM) (Vienna head quarters) was mainly on technical issues and on procurement procedures. The different committees and groups (e.g. TCG, MEP Steering group) at national and local level have been established for the proper implementation, supervision and monitoring of project activities. CIO applied existing GEF, UNIDO and FECO procedures for sub-contracting activities or for the management of project funds. The accounts of the projects were annually audited in 2008 and 2009.

Relevance:

The SIRE project was highly relevant with regard to national development and environmental agendas of China. Country ownership was very high, given the approval of the NIP by people's congress and inclusion of POPs issues in the 12th Five-Year Plan (2011-2015). The SIRE project also is highly relevant to the target groups of the interventions. All the participating departments and institutions confirmed the relevance of the project for strengthening of their capacities, and that they were actually benefiting from capacity building and training.

Effectiveness:

The effectiveness of the project was high, since most of project objectives stated in the Project Document till the mid-term have been satisfactorily achieved, thanks not only to the dedication and hard work of the CIO team but also due to the good strategic approach that has been used. Also, the effectiveness of the project implementation is enhanced since the POPs reduction issue and Stockholm Convention implementation are mainstreamed into the environment management at both central and provincial level. The abilities of relevant stakeholders at central level were improved and a policy framework was preliminarily formed. A combination of government-lead, business-orientation, broad public participation, and international communication & support was achieved in the demonstration areas.

The project was implemented on a very solid scientific basis, involving local EPB, leading research entities and enterprises with international standard laboratories in China both at central and provincial level. National experts of different panels or recruited for the project have strong experience and background from leading universities and academic institutes (e.g. Tsinghua University and Chinese Academy of Sciences). It was found that the guidance and inputs provided by these national experts were crucial in the development and implementation of activities.

Efficiency:

Mobilization of co-funding from central MOF, local government and enterprises was high and contributed to the efficiency of GEF funding. China has invested 175 million RMB for monitoring-related capacity-building. Seven dioxin monitoring centers were under construction in Beijing, Shenyang, Hangzhou, Guangzhou, Xi'an, Chongqing, Wuhan and other cities, for dioxin monitoring tasks of national hazardous waste and medical waste disposal facilities, solid waste incineration and other sources. Ningbo invested 7 million RMB for the construction of a dioxin monitoring lab at city level. As for enterprises, BaoSteel Group devoted 15 million for dioxin monitoring capacity building.

Sustainability:

Chances for sustainability are much higher in China than in many other developing countries, due to the high level of co-funding and the existing policy and regulation framework. A facilitating

environment was formed for convention implementation through improved POPs elimination capacities, public awareness and education and training activities. The incorporation of POPs reduction and Stockholm Convention implementation issues in the central and provincial social development programs indicates very high country ownership; The implementation of project activities is being monitored effectively using existing infrastructure at central and provincial level involving major stakeholders, which significantly increases the likelihood of sustainability and impact of the SIRE project.

Impacts:

The impact of the SIRE project is high.

- to the national policy framework: convention implementation is mainstreamed to key national departments, specialized policies and regulations were issued for POPs management, 12th five-year national and provincial plans were made for POPs pollution control;
- to the project counterparts: capacity for POPs and chemical management was improved largely through effective trainings and awareness raising; high level of co-financing were provided for the convention implementation, especially in the 3 demonstration provinces visited;
- to the academic and research entities: the capacity of academic and basic scientific institutes for technical support was improved, more POPs related studies were carried out, research on control technology was promoted, public awareness was raised for the POPs issues;
- to other developing countries: convention and NIP implementation experiences will be helpful for other developing countries as the outcomes of Research & development will provide good examples for low-cost POPs prevention technologies and facilities. Scientific & basic research will be helpful for the Dioxin emission database, such as the emission factor of e-waste recycling, iron ore sintering, secondary non-ferrous metal, secondary plastic recycling. The technology transfer platform and mechanism is valuable for POPs prevention technology R&D in a cost-effective way.

Overall assessment:

In summary, it can be stated that this GEF-funded project was a highly relevant, effective and very efficiently run project. Ownership of the project was very high, and China has invested considerably to implement the NIP and mainstreamed the convention requirements in its 12th five-year national and provincial plans. The implementation approach, combining UNIDO execution of international expertise with national execution of national expertise contributed significantly to the overall good performance of the project. Project activities implemented up to the midpoint of project implementation has proven to have positive results, leading to a highly and likely successful achievement of project objectives at the completion of the project.

Lessons learned:

- Country ownership and strong government are key factors for successful project implementation;
- The mixed form of agency execution and national execution (through sub-contracts to counterparts) is a very efficient implementation modality when the national capacities are sufficient (substantive competence, procurement, financial management, auditing);

- A comprehensive stakeholder involvement mechanism including a wide range of IA/EA, international community, government, technical entities, local authorities and NGO in all important events are the basis to achieve project objectives effectively;
- Establishment of convention implementing institution, development of general strategy and high attention from high-level offices is essential for the convention implementation in local levels;
- Mainstreaming the objectives of convention implementation into the national & local economic and social development plan and listing BAT/BEP in the industrial structure adjusting and upgrading will provide a good opportunity to attain financial support to promote the POPs elimination.

Recommendations:

Conclusion/Context	Recommendation	Follow up by
Since the development of the NIP, China is fully committed to implement the Convention and has invested considerably for the management of POPs. The SIRE project is being run in four demonstration provinces and cities with the project funds being used for local level Stockholm Convention implementation capacity building, where the economic baseline and environment awareness are in the higher level in China. Considering the unbalance existing of economic development and environmental management in different provinces and cities, it will be essential that China continue to benefit from the Convention's financial support mechanism to ensure replication and sustainability of the SIRE project in other provinces especially the provinces with weak economic bases.	<ul style="list-style-type: none"> • The institutional capacity building at provincial and local level is urgently needed to implement the Stockholm Convention in a sustainable way. The SIRE project should cover and benefit more provinces and cities. • Sustained effort for promotion of the SIRE project in other provinces are recommended at central and provincial level. • Outcomes and experiences should be summarized for replication of the program in other provinces. 	<ul style="list-style-type: none"> • CIO/FECO, other local agencies. • CIO/FECO and local EPBs • CIO/FECO, Project team
Some of outputs that should have been completed at midterm, but due to various reasons like delay in funds transfer, the activities of these outputs are still on-going.	<ul style="list-style-type: none"> • The PMT, CIO and UNIDO should closely monitor the delayed outputs and activities and provide guidance if needed until completion. 	<ul style="list-style-type: none"> • CIO, UNIDO, PMT
The whole project is about the building and strengthening capacity for the management and monitoring of POPS in the demonstration provinces.	<ul style="list-style-type: none"> • Implementation and enforcement of policies related to POPs in demonstration provinces should be explicitly monitored by local EPBs and CIO. 	<ul style="list-style-type: none"> • CIO/FECO and local EPBs

Conclusion/Context	Recommendation	Follow up by
To be in line with the Stockholm Convention, China is also fully committed to take measures for preventing POPs, and has invested significantly in the construction of its POPs monitoring capacity, especially the Dioxin Labs in demonstration cities. In order to promote and replicate the project outputs, it is essential to enhance the POPs monitoring ability in other relevant provinces.	<ul style="list-style-type: none"> • Effort should be made to mobilize funding from authorities, private sector, international agencies and / or bilateral donors to ensure the POPs monitoring capacity building in other provinces. 	<ul style="list-style-type: none"> • GEF, UNIDO, CIO/FECO, other potential co-financial agencies.
The establishment of technology transferring center and actual technology transfer are important outputs of SIRE project. The purpose of technology transfer is to aid China getting new ideas, inventions and technologies developed by developed countries as quickly as possible in a form useful to promote the POPs pollution control and waste disposal. The survey on POPs technology transfer needs and preliminary assessment of POPs alternatives, reduction and disposal technology was just being implemented in the SIRE project. However, the process of establishment of technology transferring center and actual technology transfer was delayed according to the implementation plan designed in PD.	<ul style="list-style-type: none"> • Substantial technology transfer should be promoted in the further project implementation; • Until completion of the project, continuous international financial support needs to be ensured for the incremental cost of POPs elimination and pollution prevention in the local enterprises. 	<ul style="list-style-type: none"> • CIO, UNIDO, academia institutes and industrial enterprises concerned • GEF, UNIDO, CIO/FECO, other potential co-financial agencies.
During recent years UNIDO has built up a significant POPs portfolio in the country. However, so far there is no involvement of UNIDO regional office in project implementation or monitoring. Only a temporary UNIDO officer (an intern: collaboration with Australian Government) was involved in helping to edit / correct draft reports.	<ul style="list-style-type: none"> • UNIDO should increase efficiency of its supervisory and management functions either by installing relevant capacity (e.g. a technically specialized staff) at the regional office in Beijing or by delegating some activities to the regional office in Beijing. 	UNIDO
Little contribution was found from international experts and international institutes in the SIRE project during the mid-term evaluation.	<ul style="list-style-type: none"> • More international experts and experiences in developed countries should be involved in the SIRE project, especially in the technology transfer component. 	UNIDO, CIO, EPBs, relevant academia institutes and industrial enterprises
In the documents submitted by CIO to the evaluation team, there was no evidence of any NGO participating in this project.	<ul style="list-style-type: none"> • CIO and PMOs should consider the participation of NGOs in the project. 	CIO, PMOs

1. Evaluation objectives, methodology and process

1.1 Information on the evaluation

This report presents the findings and recommendations of the Mid-Term Evaluation of the Global Environment Facility (GEF) project entitled “Strengthening Institutions, Regulations and Enforcement Capacities for Effective and Efficient Implementation of The National Implementation Plan In China (SIRE)” carried out Jan – March 2011, in particular a two-week field visit in China by the International and National Consultants 13 - 26 Jan 2011. The time frame of review under the Mid-Term Evaluation includes the period starting from GEF Chief Executive Officer (CEO) Endorsement in November 2007 to end of 2010, approximately the mid-point of the five year project implementation duration.

The project has a total budget of USD 15,235,000, of which USD 5,410,000 is GEF grant, USD 1,500,000 is supported by Italy, USD 6,625,000 is from the Government of China as co-financing, and USD 1,700,000 as in-kind contributions by UNIDO, public institutes and other sectors in China. The Ministry of Environmental Protection (MEP) of China, through its Convention Implementation Office (CIO) located within Project Management Division V, is the National Executing Agency, and the United Nations Industrial Development Organization (UNIDO) is the International Implementing Agency of this project. According to the CEO Endorsement Letter, the project has duration of five years starting November 2007 and ending October 2012.

The Mid-Term Evaluation was conducted by Dr. Nee Sun CHOONG KWET YIVE (International consultant, team leader), and Dr. Zhu Jianxin (National Consultant). The draft report was submitted to UNIDO, FECO/MEP and project partners for review and comment. Comments and suggestions made by these organizations will be taken into account in the finalization of the Mid-Term Evaluation Report.

1.2 Scope and objectives of the evaluation, main questions to be addressed

This mid-term evaluation was carried out in compliance to GEF and UNIDO evaluation policies in order to promote accountability for the achievement of the project objectives through the assessment of results, effectiveness, processes and performance of partners involved during project implementation. This evaluation is also a learning process through feedback and knowledge sharing on results and lessons learned among the partners involved.

The purpose of the mid-term evaluation is to enable the government, counterparts, the GEF, UNIDO and other stakeholders and donors to:

- verify prospects for development impact and sustainability, providing an analysis of the attainment of global environmental objectives, project objectives, delivery and completion of project outputs/activities, and outcomes/impacts based on indicators. The assessment includes re-examination of the relevance of the objectives and other elements of project design according to the project evaluation parameters defined in the TOR (Annex 1).
- enhance project relevance, effectiveness, efficiency and sustainability by proposing a set of recommendations with a view to ongoing and future activities;

- draw lessons of wider applicability for the replication of the experience gained in this project in other projects/countries;
- contribute to the findings of the UNIDO Country evaluation in China, which will be carried out in parallel;
- contribute to the findings of the thematic evaluation of UNIDO POPs activities.

The key question of the evaluation is whether the projects have made a significant contribution to reducing the effects of POPs on human health and the environment.

1.3 Information sources and availability of information

The project specific documentation such as the project document, the NIP for China, the progress reports, consultants' reports, and minutes of TCG and review meetings, reports of case studies and demonstration projects and financial reports were made available to the evaluation team by UNIDO Headquarters and FECO/MEP.

In general, the availability of information for evaluation purposes was good. Reports on project activities were found to be extensive, providing detailed information. The substantive reporting on project results, based on the planned objectives as stated in the project document, was listed in Annex 4.

1.4 Methodological remarks, limitations encountered and validity of the findings

As stated in the TOR (Annex 1), the team analyzed the substantial documentation submitted by UNIDO and FECO/MEP and also other project-related material developed during the project like the POPs information websites.

During the field mission undertaken in China from 13-26 Jan 2011, the evaluation team met with FECO/MEP, UNIDO Country Office in Beijing, Guangdong EPB, Ningbo EPB, Shanghai EPB and national project partners involved in SIRE activities. An agenda of the field mission is attached as Annex 2. A presentation on the preliminary findings of the evaluation exercise was made to FECO/MEP on 25 Jan 2011. The preliminary findings were also presented to the Project Management at UNIDO Country Office in Beijing on 27 Jan 2011. The presentations provided opportunities for receiving feedback on the preliminary findings of the mission that have been considered and are reflected, where appropriate, in this report.

Additional information on specific questions was also requested and obtained from Project Management at UNIDO Headquarters, Vienna, CIO and other partners through frequent email communications.

2. Country and project background

2.1 Brief country context of relevance to the project

2.1.1 Stockholm Convention Implementation in China

As the world's largest developing country with more than 1.3 billion citizens, China has been an active participant in the negotiations of the Convention since 1998. China signed the Stockholm Convention on POPs in May 2001, the first day when it opened for signature and the National People's Congress ratified the Convention in June 2004. The Convention entered into force in the country on 11 November 2004. China has participated in each of the COPs and other Convention related meetings, such as the meetings of the Expert Group on Best Available Technologies and Best Environmental Practices (BAT/BEP) and the meetings of the POPs Review Committee. China has also undertaken active preparations for the nationwide implementation of the Convention.

A National Coordination Group (NCG) has been established, bringing the vice minister of the Ministry of Environmental Protection (MEP) to act as the group leader and director-generals of the 14 related ministries to act as the coordinators and focal points within their ministries. A Convention Implementation Office (CIO) under the NCG has been established to work as the focal point and information-clearing house of China to the Convention and take charge of domestic management, organization and coordination of the Convention implementation affairs. Several joint working groups have been established within CIO between MEP and respective ministries, including the Ministry of Housing and Urban-rural development, State Electricity Regulatory Commission, Ministry of Agriculture, etc.

The development of the National Implementation Plan (NIP) in China has been undertaken by the Foreign Economic Cooperation Office (FECO) of MEP. It was supported by a full size project approved by the GEF Council in May 2003 and initiated on 21 September 2004. The State Council approved the NIP, which has been submitted to the Convention Secretariat on 18 April 2007 and thereafter served as overall guidance for implementing the Stockholm Convention.

2.1.2 National Implementation Plan

Of the 12 POPs initially included in the Convention for control, chlordane, mirex and DDT are still being produced and used for some special purposes. Chlordane and mirex are used mainly for the control of termite and DDT is mainly used as intermediate for production of dicofol, as additive in production of antifouling paint and in malaria control. The production of PCBs was stopped in 1974, but electrical devices containing PCBs are still being used, and decommissioned sealed devices have not been adequately and properly disposed off. All of the 10 categories exist in China, including 62 subcategories of sources of dioxin releases included in the Standardized Toolkit for Identification and Quantification of Dioxin and Furan Releases issued by UNEP, wastes such as municipal waste, medical waste and hazardous waste, incineration, paper making, iron and steel, non-ferrous metal, chemical industries, fossil fuel-fired power generation and other sources. Due to the low level of awareness and management as well as economic and technical development limits, wastes containing POPs and contaminated sites have not all been identified and properly managed or disposed of, including production sites of the enterprises that stopped producing POPs in the 1970s and 1980s.

The short-term and long-term objectives of China's implementation of the NIP were formulated

pursuant to the Convention's different time requirements on POPs control, the situation of POPs pollution in China and the technological, economic and administrative feasibility of control actions. By 2015, it was planned that: (i) elimination of the use of PCBs in currently used equipment containing PCBs and achieving the environmentally sound management and disposal of used equipment containing PCBs, with identified high risk across the country; (ii) reduction or elimination of releases of unintentionally produced POPs by applying BAT/BEP in key industries with unintentionally produced POPs and begin to control the upward trend of dioxin releases; (iii) reduction or elimination of releases originating from POPs stockpiles and wastes and preliminary achieving the environmentally sound management and disposal of pesticide POPs wastes across the country; (iv) achieving the environmentally sound management and disposal of high-risk PCBs-containing wastes indicated in the inventory for the first phase and fulfilling the environmentally sound management and disposal of identified dioxin wastes released by key industries; (v) establishment an inventory of pesticide POPs contaminated sites and begin to form an inventory of sites contaminated by PCBs and Dioxin and implementation environmentally sound management and remediation support systems involving management, eventual land use, environmental remediation, etc., of POPs contaminated sites

Based on China's ongoing situation, 17 action plans have been developed for inclusion in the NIP, with the estimated investment of 34 billion RMB over the first ten-year period (2006-2015). In the initial stage, monitoring and central level activities such as legislation, institutional strengthening and public awareness are important activities. Gradually there was a dominance of technical capacity building for the practical management of the production facilities, stockpiles and waste. Also, the capacity building would be replicated at provincial and other local levels. The total volume will initially be dominated by cross-cutting activities for which the funding is controlled by the government.

Initial priority areas include: (i) constitute and improve the policies and regulations required and reinforce the constitutional basis for the implementation of the Convention; (ii) eliminate production and use of chlordane, mirex and DDT; (iii) confirm inventory for unintentionally generated POPs releases emissions and the list of equipment containing PCBs and wastes containing POPs; (iv) drastically reduce or eliminate exposures from identified high-risk power equipment in service which contains PCBs; (v) adopt BAT/BEP to control dioxin releases for key dioxin emitting industries; (vi) realize environmentally sound management of wastes containing dioxin in the waste incineration industry; (vii) establish financial mechanisms to ensure implementation of each action plan; (viii) conduct project demonstrations and extensive replication; (ix) develop and enhance capacity building in support of Convention implementation; and (x) establish a long-term mechanism to control POPs releases emissions.

2.2 Sector-specific issues of concern to the project

2.2.1 Capacity needs for Stockholm Convention Implementation

To achieve the NIP objectives by 2015, China was facing a significant shortage of capacities in order to meet Convention requirements at various levels and would continue to encounter the existing barriers to cost-effective implementation of the Stockholm Convention, including:

- Lack of an enabling policy and regulatory environment;
- Weak institutional capacity for planning, guiding and enforcement for the Convention

compliance;

- Weak monitoring capacity for POPs;
- Lack of mechanisms for sustainable co-financing;
- Lack of effective mechanism for orienting R&D toward the Convention implementation;
- Lack of effective mechanism for technology transfer;
- Under capacity of evaluation for continuous improvement;
- Low awareness on POPs;
- Unavailability of and limited access to information;
- Lack of qualified human resources.

In order to meet Convention requirements, there is a need for strengthened capacity in a range of areas. The priority area for capacity building during the period of 2007-2012 was specifically determined based on the overall performance assessment of the results of all the Convention implementation activities.

2.2.2 Important developments expected from the project

The SIRE project was designed to overcome the barriers China faced to cost-effective implementation of the Stockholm Convention. The SIRE project is designed to create a more coherent, consistent and responsive framework of laws, regulations, administrative rules and technical standards in place to support the Stockholm Convention compliance. The project is expected to strengthen China's institutional capacities directly or indirectly for enforcement by:

- Institutional capacity improved for national coordination, decision-making, organization and execution and monitoring and supervision. The institutions include the National Coordination Group, the CIO, 14 relevant ministries, about 20 industrial associations and more than 40 provincial and municipal departments.
- Convention compliance requirements mainstreamed into existing environmental protection instruments, including funds mobilization, environment protection programs, R&D, technology transfer, data collection and information management, inspection and enforcement and evaluation.
- Group of monitoring stations and laboratories capable of undertaking standardized POPs monitoring, including more than 265 existing environmental monitoring centers/laboratories network mainly located in pilot provinces, 13 laboratories for dioxin monitoring and 33 Centre for Disease Control and Prevention (CDC) laboratories for POPs related health monitoring.
- Specialized organizations established, including three local CIOs in pilot provinces, an information centre and a service-oriented Technology Transfer Promotion Centre (TTPC) at the national level supporting the public and private partnership and the motivated wide range of cooperation among research bodies, enterprises and government on anti-POPs initiatives.

The project will significantly increase the public and stakeholders' awareness with:

- More than 100 enterprises and 800 individuals being trained as trainers, including managerial, technical, operating and educational personnel; and
- Awareness of more than 60% of the population in high-risk POPs exposure areas (e.g. farmers regarding POPs pesticides and alternatives to them or residents in area near power

equipment regarding PCB-containing electrical equipment) are raised through public awareness campaign.

2.3 Project summary

2.3.1 Fact sheet of the project

The main project objectives were to assist China to effectively and efficiently implement the Stockholm Convention by strengthening the institutions, regulations and enforcement and to enhance the capacities for the sound management of POPs at national and local levels; and to create an enabling environment in China by establishing/amending laws, regulations and standards, strengthening institutions for monitoring, improving research and development (R&D), promoting technology transfer, facilitating data and information collection, enhancing supervision, enforcement and evaluation for continuous improvement and awareness raising of stakeholders on POPs issues.

Table 1 Components and expected outcomes of SIRE project

Project Components	Expected Outcomes	Expected Outputs
1. Strengthening of policy and regulatory framework	Strengthened policy and regulatory framework for more effective implementation of the Stockholm Convention and NIP	<ul style="list-style-type: none"> - Improvement of policy and regulatory framework - Co-financing strategy developed
2. Strengthening of institutional capacity	Strengthened institutions for more efficient implementation of the Stockholm Convention and NIP	<ul style="list-style-type: none"> - Environmental monitoring - Research and Development - Technology transfer - Institutional strengthening for data collection, processing and reporting - Institutional strengthening for decision making and legislation enforcement - Institutional strengthening for evaluation and follow-up

The major outputs of the project was shown in table 1 and described as follows:

- *Regulatory framework:* Laws and regulations relevant to POPs production, use, import and export, wastes and releases, will be prepared at the central and local government levels; local legislation in several pilot provinces will be developed in order to support and contribute to central government legislation preparation. Standards and technical guidelines will also be formulated and/or amended. Successful experiences will be disseminated nationwide.
- *Economic policies and financial mechanisms:* Activities have been designed to develop and pursue opportunities for co-financing on a nationwide basis and through targeted demonstration activities in a key province or provinces, the results of which will then be replicated to other areas.

- *Monitoring:* Human resources will be developed through intensive trainings. Management systems will be strengthened to enable existing national monitoring facilities to properly perform its monitoring functions.
- *Research and Development:* Cooperation among ministries and principal funding sources relevant to R&D programs will be improved so as to allow them to be more effective in communication and coordination in addressing POPs related issues. A GEF supported tracking and incentive mechanism to mainstream NIP requirements into national R&D programs will be developed so that the national and global benefits can be achieved simultaneously.
- *Technology transfer:* A technology transfer centre to strengthen linkages among research bodies, enterprises and government agencies to address POPs issues will be established.
- *Data and information collection:* Data and information collection mechanism will be established and strengthened to meet the requirements of Stockholm Convention and Conference of Parties (COP) as well as support decision-making.
- *Enforcement of policy and regulations:* Enforcement of policy and regulations at national and local levels via strengthening organization, coordination and management, and mainstreaming the requirements of the Convention and the NIP implementation in the existing environment protection instruments and practices.
- *Evaluation:* Establishing evaluation-oriented institutional capacity to meet the Convention requirements for performance appraisal and allowing for continuous improvement in the NIP implementation. Promotion of environmental protection
- *Public awareness:* Awareness about POPs and Stockholm Convention implementation addressed through awareness raising, making information accessible and creating opportunities for participation
- *Environmental educations:* Education will be implemented for managerial personnel, technical personnel, scientists, engineers, workers, educators and students.

Table 2 indicates the project budget and co-finance of the SIRE project The project has a total budget of USD 15,235,000, of which USD 5,410,000 is GEF grant, USD 9,825,000 is supported as co-finance by UNIDO, Italy, Chinese Government and other sectors.

Table 2 Project budget and co-finance of SIRE project

Outputs	GEF (US \$)	Co-finance (US \$)						
		UNIDO	MOF	MEP	THU	RCEES	Italy	Sub-total
1. Policy and regulatory framework	740,000		480,000	920,000			300,000	1,700,000
2. Financing strategy	340,000		320,000				100,000	420,000
3. Environmental monitoring	420,000		70,000	230,000		750,000		1,050,000

Outputs	GEF (US \$)	Co-finance (US \$)						Sub-total
		UNIDO	MOF	MEP	THU	RCEES	Italy	
4. Research and Development	380,000		300,000	425,000	150,000			875,000
5. Technology transfer	480,000		240,000	160,000	400,000			800,000
6. Data collection, processing and reporting	580,000		320,000	590,000				910,000
7. Institutional strengthening for decision making	630,000		430,000	350,000			500,000	1,280,000
8. Evaluation	330,000		200,000		200,000		200,000	600,000
9. Public awareness	490,000		320,000		50,000		250,000	620,000
10. Education	410,000		250,000		150,000		150,000	560,000
11. Project management	610,000	200,000	810,000					1,010,000
Total	5,410,000	200,000	3,750,000	2,875,000	750,000	750,000	1,500,000	9,825,000

Table 3 shows the SIRE project timing and duration. The project was approved by the GEF Council on June 14, 2007 and GEF CEO Endorsement was communicated to UNIDO in November, 2007.

Table 3 SIRE project timing and duration

Milestones	Dates
PIF Approval Date	March 01, 2007
Project Approval Date	June 14, 2007
CEO Endorsement Date	November 06, 2007
GEF Agency Approval Date	November 23, 2007
Mid-term Review	Jan 2011
Implementation Completion	Oct 2012

2.3.2 Brief description including history and previous cooperation

UNIDO plays a leading role in the implementation of the Stockholm Convention on Persistent Organic Pollutants. Since the Convention opened for signature in 2001, UNIDO became one of the principal agencies assisting developing and transition economy countries to meet their obligations under the convention. UNIDO was awarded the status of Executing Agency with Expanded

Opportunities by the GEF in May 2000 in recognition of its comparative advantage in the area of industry-related POPs issues. China is UNIDO’s largest recipient of technical cooperation assistance. UNIDO is executing or developing a range of demonstration and capacity building projects geared to support Convention implementation. Activities undertaken in China by UNIDO include a range of measures related to investment, industrial efficiency and waste management.

The NIP Project “Building the Capacity of the People's Republic of China to Implement the Stockholm Convention on POPs and Develop a National Implementation Plan” was executed by UNIDO. The objective of NIP project is to protect human health and the environment from persistent organic pollutants. The project is designed to meet China's commitment as a prospective party to the Stockholm Convention to take the first steps towards implementation of the Convention through the development of a National Implementation Plan (NIP). The project represents an initial capacity building effort and builds on on-going activities in China. A range of activities are grouped into a number of work packages that have been planned following the text of the Convention, the GEF initial guidelines on enabling activities, and the WB/UNEP guidance document for the development of NIPs.

The UNIDO executed NIP component of the project has played an important and central role for the development of the NIP in China, which was successfully developed and submitted to Convention Secretary on April 18, 2007.

2.3.3 Project implementation arrangements

UNIDO will be the GEF Implementing Agency (IA) for the project. UNIDO is well positioned to act as an effective implementer of project activities based on its comparative advantage in this area. It will be responsible for the overall management of the project and its funds. Fig.1 shows the project implementation arrangements designed in PD.

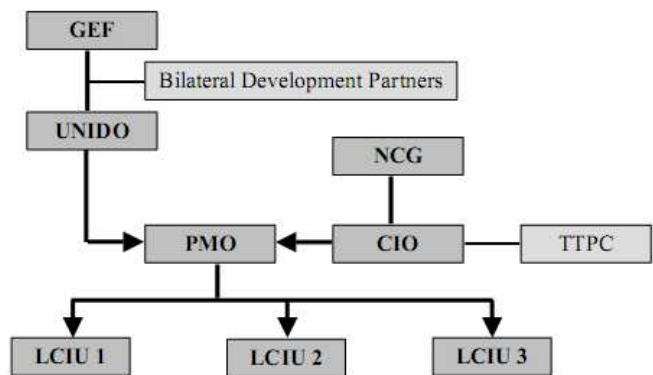


Fig.1 SIRE Project implementation arrangements

MEP is the designated national leading agency and focal point of the implementation of the Stockholm Convention in China. As such, MEP will be the national implementing agency (NIA) for the project. Within MEP, a high-level Leading Group for Stockholm Convention, chaired by the Deputy Minister, will coordinate initiatives within its divisions and departments. The Convention

Implementation Office (CIO) was formed to administer activities towards the implementation of the Stockholm Convention in China.

The Foreign Economic Cooperation Office (FECO) of MEP acts as the national executing agency (NEA). MEP/FECO has about 20 years experience in the development, implementation and managerial oversight of projects and programmes funded by various IAs and their funding mechanisms, including the GEF. It has wide experience of collaboration with various Intergovernmental Organizations, bilateral donors and enterprises in China. It has acted successfully as NEA for several GEF-funded projects in the POPs focal area and has currently established Convention implementation measures that are intended to be permanent.

Managerial responsibilities for the full project are delegated to a Project Management Office (PMO), which was established within FECO/MEP, and a National Project Manager (NPM) was recruited for the day-to-day project management. A specialist competent in project management assisted the NPM. PMO managed all local elements of the project including the recruitment and supervision of project managers (for the 4 LCIUs) for suitable groups of activities. It cooperated with UNIDO in the procurement and delivery of project inputs and the organization of project activities. The PMO prepared periodic forward planning and progress reports through FECO to UNIDO and TCG. The PMO will provide periodic financial reports to UNIDO.

UNIDO assisted the National Executing Agency (NEA) in the execution of the project through the provision of timely assistance at key phases of project implementation, in the review of investigations and reports prepared as outcomes to the project, in the disbursement of funds necessary for the recruitment of international experts and other related international expenditures and in guiding the NIA to fulfill its obligations under the Stockholm Convention. UNIDO will provide periodic progress and financial reports to the GEF, as required.

2.3.4 Counterpart organization(s)

National Coordination Group for Convention Implementation (NCG): As the national coordination mechanism of the Chinese government for implementation of the Stockholm Convention, it is responsible for reviewing and implementing national guidelines and policies on POPs management and control, and coordinating important issues related to POPs management and convention implementation. It consists of the following 14 agencies:

- Ministry of Environmental Protection (MEP)
- National Development and Reform Commission (NDRC)
- Ministry of Foreign Affairs (MOFA)
- Ministry of Finance (MOF). MOF is the GEF Focal Point in China.
- Ministry of Commerce (MOCCom)
- Ministry of Science and Technology (MOST)
- Ministry of Agriculture (MOA)
- Ministry of Health (MOH)
- Ministry of Housing and Urban-Rural Development (MOHURD)
- Ministry of Industry and Information Technology

- General Administration of Customs (GAC)
- General Administration of Quality Supervision, Inspection and Quarantine(AQSIQ)
- State Administration of Work Safe (SAWS)
- State Electricity Regulatory Commission (SERC)

Office of the National Coordination Group for Convention Implementation (CIO): As the office under the National Coordination Group for Convention Implementation, it is acting as the focal point for China's implementation of the Stockholm Convention. It is responsible for establishment and improvement of convention implementation management information mechanisms, as well as organization, coordination and management of convention implementation activities. In detail, it is responsible for: carrying out work assigned by the NCG; conducting convention policy study and organizing convention negotiations; coordinating and organizing related department and agencies to formulate the counterpart policies, regulations and standards and promote their implementation; coordinating and organizing related departments and local government for selection, preparation, application and execution of national convention implementation projects; providing the local government with guidance in convention implementation activities; carrying out publicity, education and training activities; and conducting evaluation of convention implementation performance.

Three Local Convention Implementation Units (LCIUs) were established under the guidance of the CIO to facilitate the project implementation at the local level. Their responsibilities include planning, coordination and organization of trainings, awareness raising and inspections, supervising the project implementation at local level, and collecting information and compiling progress reports. Their work will include, among others (i) the development of a provincial implementation plan (PIP) under the guidance of the LCIU and CIO and in accordance with the NIP framework to help local agencies integrate POPs issues into their environmental protection activities; and (ii) explore innovative co-financing mechanisms in the demonstration provinces for the implementation of the Convention.

UNITAR will assist UNIDO in the execution of the activities with regard to the training and public awareness raising, in line of the Memorandum of Understanding (MoU) signed by these two organizations.

Technical Coordination Group (TCG): All bilateral and multilateral agencies working on POPs in China have formed a group to exchange information about their POPs programmes and projects in the country. It was chaired by MEP and established during the NIP development and continued its functions for the implementation of this project. The members of the TCG include relevant domestic stakeholders, international executing agencies and implementing agencies, bilateral donors, private sectors and non-governmental organizations.

3. Project assessment

3.1 Project design

The SIRE project document in general is of good quality with relevant and concise information, which aims to overcome the barriers to the enhancement of capacity for effective and efficient implementation of the NIP and address the problems at hand. During the project preparation, China was just facing a significant shortage of capacities at various levels. And the following 4 actions were emphasized within the initial priority areas: i) to constitute and improve the policies and regulations required and reinforce the constitutional basis for the smooth implementation of the Convention; ii) to establish financial mechanisms to ensure implementation of each action plan; iii) to develop and enhance capacity building in support of Convention implementation; and iv) to establish a long-term mechanism to control POPs releases emissions.

The approval and implementation of SIRE project was supposed to provide China with required capacities for implementing the NIP within the timeframe of 2006-2010 and yield significant domestic and global benefits. It was supposed to introduce advanced concepts and management experience to harmonize Chinese practices with international levels, promote technology transfer and application, upgrade the industrial structure, increase environmental friendliness of Chinese product, promote cleaner production and protect the public health from POPs pollution.

The SIRE project was formulated based on a logical framework approach with a clear thematically focused development objective. The development of the project proposal was done in a participatory approach involving key national stakeholders and international agencies. Three outcomes and ten outputs concerned with establishing/amending laws, regulations and standards, strengthening institutions for monitoring, improving research and development (R&D), promoting technology transfer, facilitating data and information collection, enhancing supervision, enforcement and evaluation for continuous improvement and awareness raising of stakeholders on POPs were in close conjunction with the project concrete objective to create an enabling environment for the Stockholm Convention implementation in China.

3.2 Relevance

3.2.1 Relevance to national development and environmental agendas

The SIRE project design is consistent with the priorities identified by the NIP and the Chinese 11th Five-Year Program, which will constitute the project baseline for regular future reviews and linkages with the national development plans. Guidelines under the 11th Five-Year Program set targets for “boosting the optimization and upgrade of industrial structure”, “building up a resource-efficient and environment-friendly society”, and “promoting circular economy”. Developing synergies with these national development programs and plans can significantly facilitate the Convention implementation. The Five-Year Program will also allow provision of strong support to the project from central and local government agencies and other stakeholders.

At mid-term of project implementation, 16 existing policy and regulations were identified and evaluated in the aspect of supporting Stockholm Convention regarding the production, use, import

and export, environmental monitoring and ingestible standards for pesticide POPs, PCBs, DDT, UP-POPs, stockpiles, wastes and contaminated sites. 11 national and local administrative rules were analyzed for POP reduction and environmental management, recommendations for improvement were proposed. Also, it was suggested to consider including POPs into 11 regulations. By the end of 2010, 9 were issued or just under comments processing, 14 were proposed, and 7 were just under preparation.

With the efforts of SIRE project, MEP in cooperation with other 9 relevant administrative departments including NDRC jointly issued the announcement on April 16, 2009, which requires that DDT (except those used for acceptable purpose), chlordane and mirex and hexachlorobenzene will be banned from manufacturing, circulation, utilization and import& export within the territory of China from May 17, 2009. Certainly the above multi-department announcement to ban the DDT production and usage was valuable to remove the policy and management barriers in this cross cutting project. This official announcement will be very helpful for the promotion of specific policies or regulations regarding POPs management and coordination of different laws and regulations related to POPs management and benefit from increased incentive-based measures to promote self-regulation and a monitoring rather than an enforcement role for local officials.

Text of regulation drafted and prepared at the central government level, was adapted and enforced at local context at four focal pilot provinces- Guangdong, Ningbo, Shanghai and Shanxi (3 of the 4 pilot provinces and cities were visited during the midterm evaluation), as a support to central level legislation. In Guangdong, provincial Convention Implementation Plan was drafted and “Twelfth Five-Year Plan” focusing on POPs Pollution Control Program was formulated for the term 2011-2015. In Ningbo, regulations and administrative rules issued and concerned with POPs control and elimination include: regulation on Ningbo POPs Reduction and Pollution Control, Policy on enforcement of air pollution control, “Twelfth Five-Year Plan” on development of environmental protection and environmental task on Eco-city building in Ningbo. In Shanghai, 5 provincial regulations were issued including: Air pollution control on HW and MSW incineration, in which dioxin emission level was set as 0.1 ng/Nm³; Enforcement on implementing Solid Waste Law in Shanghai; Shanghai Twelfth Five-Year Plan on POPs Pollution Prevention and Control; Standard on Capacity Building of Emergency Response to HW and Technical Standard on HW Treatment in Rotary Cement Kilns.

The successful experiences got in these provinces, in particular the experiences in POPs regulation formulation and management incentives will be disseminated nationwide and used as a valuable reference in the preparation of the national level legislation. Convention implementation is mainstreamed to key national departments, specialized policies and regulations was issued for POPs management, 12th five-year national and provincial plan were made for POPs pollution control; high level of co-financing were provided for the convention implementation, especially in the 3 demonstration provinces;

3.2.2 Relevance to target groups

The SIRE project has high relevance to the target groups and stakeholders involved. All the participating departments and institutions confirmed the relevance of the project for strengthening of their capacities, they are benefitting from capacity building and training programs planned in the project.

The impact of the SIRE project is high:

- To the central and local governments, many training workshops were held to enhance the environmental management ability and monitoring capacities:
 - ✓ Staff from MEP, NDRC, Ministry of Industry and Information Technology, Ministry of Housing and Urban Construction, Ministry of Agriculture, Ministry of Commerce, Ministry of Health, Customs, AQSIQ, Administration of Work Safety was trained in June 2010 to carry out the Joint Inspection on 19 enterprises for DDT, chlordane, mirex and hexachlorobenzene production and usage in Tianjin, Hebei, Jiangsu and Zhejiang provinces;
 - ✓ POPs (pesticides and PCBs) monitoring training for the local environmental monitoring stations in 33 provinces, more than 200 people from county-level monitoring central station participated in such training programs;
 - ✓ Dioxin sampling and monitoring training for more than 80 technical operators from 7 national dioxin regional monitoring centers;
 - ✓ National POPs Investigation training was held in Beijing on July 22-23, 2009, more than 100 EPB staff from the relevant provinces, autonomous regions and municipalities involved in.
 - ✓ Sino- Norwegian POPs capacity-building training was held in Chongqing on December 7-8, 2009, more than 50 representatives from 4 demonstration provincial / municipal environmental protection departments attended in the workshop.
- To the relevant enterprises, policy, technical and financial assistance was achieved through the project to support introduction of new products, new technologies, new processes, promote industrial upgrading, promote the technology transfer to industries:
 - ✓ POPs Technology transfer needs survey was carried out;
 - ✓ Initial Assessment of POPs alternative, reduction and disposal technologies, including: Pesticides in alternative technologies, dioxin reduction technology and dioxin wastes and contaminated site remediation technologies;
 - ✓ 3 BAT / BEP trainings of cement kilns enterprises for 500 people;
 - ✓ BAT / BEP reform program proposed to paper companies of typical paper companies raised;
 - ✓ Optimization and process improvement training, technical personnel of more than 300 people from paper and pulp enterprises.
- To academic and scientific institutes: capacity improved for technical support, more POPs related studies were carried out, control technology research was promoted;
 - ✓ preliminary assessment of the national science and technology support plans, including

973 plans, 863 plans and other important national projects related to the POPs;

- ✓ proposed R & D needs and research projects related, such as the work related " the key technology research and Support Program- key technologies research to support Stockholm Convention implementation, "the 863 Plan - POPs Reduction and Control Technology demonstration" " green public project- Development Strategy on new POPs environmental management decision "
 - ✓ cooperate with national environmental technology assessment system and establish third-party technical performance testing platform, to promote the application of R & D results
 - ✓ CIO / MEP and Tsinghua University, China Environmental Science Society, the Chinese Chemical Society co-hosted a POPs Forum 2009 and the Fourth National Symposium on Persistent Organic Pollutants
- To public: awareness raised for the POPs issues through the project campaigns:
 - ✓ Information published in important newspapers, journals and internet websites; such as People's Daily, China Environment News, Science and Technology Daily, Farmer Daily
 - ✓ Participation and organization in: (1)Peking University Anniversary; (2)POPs Forum National Symposium on Persistent Organic Pollutants (1-5 sessions); (3) promotional activities of phase-out of persistent organic pollutant pesticides; (4) POPs thematic exhibitions, received about 40 grant to visit; (5)"Forum on Persistent Organic Pollutants" in Shanghai World Expo.
 - ✓ Production of animation, display boards, brochures and souvenirs to fulfill the Convention
 - ✓ Initial establishment of a stable channel for the dissemination of information
 - To international society: Convention and NIP implement experiences will be helpful for other developing countries; Outcomes of Research & development will give a good sample for low-cost POPs prevention technologies and facilities; Scientific & basic research will be helpful for the Dioxin emission database, such as the emission factor of e-waste recycling, iron ore sintering, secondary non-ferrous metal, secondary plastic recycling; Technology transfer platform and mechanism is valuable for POPs prevention technology R&D in a cost-effective way.

3.2.3. Relevance to the GEF and UNIDO

The project's outcomes are consistent with the GEF operational program for POPs and in line with UNIDO mandate of POPs elimination through BAT/BEP. GEF-3 efforts focused on supporting NIPs. Therefore, activities from GEF-4 were characterized by a shift from preparation to implementation. In order to achieve the long-term success of the POPs Convention, strong emphasis will be placed on the sustainability of GEF interventions, focusing especially on countries whose policies and actions

demonstrate their firm intention to follow-through on their commitment to the Convention. While completing the NIP development in China, this SIRE project is consistent with the second Strategic Objectives for the period of GEF-4 in the focal area of POPs, which include:

- Continuing the GEF's National Implementation Plan (NIP) Program.
- Strengthening national capacities for NIP implementation, including assisting those countries that lag farthest behind to establish basic, foundational capacities for sound management of chemicals.
- Partnering in investments needed for NIP implementation to achieve impacts in POPs reduction.
- Partnering in the demonstration of feasible, innovative technologies and practices for POPs reduction.

3.2 Effectiveness

According to the timeline of activities in Project Document (PD), the outputs that should have started within the first half of the project are given in table 4. The status of each of these outputs is given in the table; some remarks are also reported to highlight some important points. Note that the outputs with an asterisk means that this output should have been completed at midterm.

Table 4 Status of project outputs at midterm

<i>Activities for each Output</i>	<i>Status of activities</i>	<i>Remarks</i>
<i>Output 1. Sound policy and regulatory framework</i>		
1.1 Establishment or amendment of 21 laws and regulations	Ongoing	16 laws and regulations were evaluated in the aspect of supporting Stockholm Convention implementation and the comment for improvement was proposed. POPs contents was suggested to add into the 11 regulation concerned.
1.2 Draft 11 National Administrative Rules on POPs Reduction and Control. Industrial policy adjustment	Ongoing	11 national and local administrative rules were analyzed for POP reduction and environmental management, comment for improvement was proposed.
1.3 Develop or revise the 33 technical policies, guidelines, standards -Meeting	Finished	Expert workshop was organized to discuss the technical policies concerned.
1.4 Incorporate the Convention requirement	Ongoing	9 was issued or just under comments processing, 14 was proposed, 7 was just under preparation
1.5* Strengthen POPs legislation in demo province	Finished	Provincial regulations were developed and issued in Guangdong and Ningbo and Shanghai
<i>Output 2. Mechanisms and tools for financing</i>		
2.1* Identify the principal stakeholders	Ongoing	Expert workshops for the implementation

<i>Activities for each Output</i>	<i>Status of activities</i>	<i>Remarks</i>
2.2* Determine the principles and mechanism for the responsibility sharing	Ongoing	program and cooperation among different projects for co-financial mechanism were organized.
2.3 Explore public and private partnership	Ongoing	Several fund raising workshops were organized to mobilize 1.18M from bilateral sources of and 6M co-financing from Chinese central government
2.4 Develop the strategy for co-financing mechanism	Ongoing	
2.5 Host fund raising workshops	Ongoing	
<i>Output 3: Environmental monitoring</i>		
3.1* Develop a unified monitoring programme	Finished	Effectiveness evaluations for convention implementation was planned and implemented according to the Article 16 of SC. Ambient air sampling and analyzing was implemented in China.
3.2* Train monitoring of pesticides POPs and PCBs in environmental samples	Finished	About 200 technicians from 33 local monitoring centres were trained for the analyzing techniques of POPs and PCBs in the environmental samples.
3.3* Organize training for the existing dioxins monitoring laboratories	Finished	About 80 technicians from 7 national centres were trained for the Dioxin sampling, pre-treatment and analysis
3.4* Train monitoring of pesticide POPs and PCBs in human samples	Not yet started	
3.5 Organize inter-laboratory comparisons and calibrations	Ongoing	Some laboratories participated successfully in an international exercise in 2008.
<i>Output 4: Research & Development</i>		
4.1* Establish the coordination mechanism	Finished	Establish / improve the coordination mechanism among the technology management department, expert compliance Committee and academic community to promote the funds management performance on supporting research and development for the Stockholm Convention implementation
4.2 Regularly evaluate the progress of national R&D activities	Ongoing	Preliminary reviewing of the progress of R&D, such as the national science and technology support plans, 973 plans, 863 plans and other important projects concerned; Proposal on the research and development needs and planning for the state to provide information related to scientific research;
4.3 Establish an incentive programme for promoting R&D results	Ongoing	To set up a third-party technology performance test platform to promote application of R & D results; To fit with the National Environmental Technology Assessment System

<i>Activities for each Output</i>	<i>Status of activities</i>	<i>Remarks</i>
4.4 Promote the exchange and communication of R&D progresses	Ongoing	CIO/MEP and Tsinghua University, China Environmental Science Society, the Chinese Chemical Society co-hosted a POPs Forum 2009 and the Fourth National Symposium on Persistent Organic Pollutants.
<i>Output 5: Technology transfer</i>		
5.1* Establish an assistance oriented Technology Transfer Promotion Centre	On going	Survey on POPs technology transfer needs and preliminary assessment of POPs alternatives, reduction and disposal technology
5.2 Enable the centre to work as a technology information clearinghouse	Not yet started	
5.3 Assist enterprises in optimizing the technical and engineering design (40%) -FECO	On going	Full use of available resources to provide assistance for enterprise: providing BAT/BEP trainings for 500 staff in 3 cement kiln plants; proposal reforming program for 6 paper making plants; technology optimization for papermaking process and training for 300 staff.
5.4 Establish a technological coordination and cooperation platform	On going	
<i>Output 6: Data collection, processing and reporting</i>		
6.1 Identify the needs of information	On going	Confirmation of the information needs to complete the construction of MIS systems, and basic data entry
6.2 Strengthen the integration of the information	On going	
6.3 Establish information collection channels	On going	Establishment information gathering channels for the chemicals in Annex A and B
6.4 Establish procedures and collect information of UP-POPs	On going	A first inventory was carried out during NIP enabling activities.
6.5 Analyze and disseminate information	On going	Chinese and English website maintained normal operation, and according to actual needs on the improvement and development of new features
<i>Output 7: Institutional strengthening for decision making and legislation enforcement</i>		
7.1* Strengthen the coordination of NCG and support its decision making	Finished	3 coordinator meetings; 5 liaison officer meetings and 2 expert committee meetings
7.2* Establish 3 local convention implementation units and develop PIPs	Finished	4 LCIUs established in Guangdong, Shanghai and Ningbo as planned
7.3 Training the environmental protection departments at the central, regional and local levels	Finished	A total of 9 training workshops were held for about 900 environmental management staff from local environmental protection departments to improve their capacity and awareness.
7.4 Launch joint inspections	Finished	MEP holds a joint inspection in 19 DDT, chlordane, mirex and hexachlorobenzene enterprises in June 2010.

<i>Activities for each Output</i>	<i>Status of activities</i>	<i>Remarks</i>
7.5 Instigate NGOs, etc. to supervise self-policing and supervision	Not yet started	
7.6 Establish and strengthen self-policing and supervision	Not yet started	
<i>Output 8: Evaluation</i>		
8.1* Establish a working team for evaluation	On going	Evaluation program design for NIP implementation; Theory, methods and models for NIP assessment; Implementation program on NIP evaluation (draft).
8.2 Train the evaluation staff (100%)	Not yet started	
8.3 Evaluate the results and impacts of the NIP implementation	Not yet started	
8.5 Hold a workshop to discuss and disseminate the evaluation findings	Not yet started	
<i>Output 9: Public awareness</i>		
9.1*Establish a platform for effective POPs information distribution	Finished	Information published in important newspapers, journals and internet web; such as People's Daily, China Environment News, Science and Technology Daily, Farmer Daily
9.2*Establish partnerships with other environmental awareness of promotion programme	Finished	Participation and organization in: (1)Peking University Anniversary; (2)POPs Forum National Symposium on Persistent Organic Pollutants (1-5 sessions); (3) promotional activities of phase-out of persistent organic pollutant pesticides; (4) POPs thematic exhibitions, received about 40 grant to visit; (5)"Forum on Persistent Organic Pollutants" in Shanghai World Expo.
9.3* Make materials for raising public awareness of POPs issues	Finished	Production of animation, display boards, brochures and souvenirs to fulfil the Convention
9.4 Distribute POPs information Output 6: Data collection, processing and reporting	Ongoing	Initial establishment of a stable channel for the dissemination of information
9.5 Implement a special programme for public awareness promotion	Ongoing	Propaganda of the dangers of DDT and Dicofol to encourage farmers to adopt IPM techniques, nearly ten thousand farmers took part in the campaign; Publicity of the potential environmental risks to promote the elimination of anti-fouling paints containing DDT among fishermen, nearly 300 fishermen took part in the campaign

<i>Activities for each Output</i>	<i>Status of activities</i>	<i>Remarks</i>
<i>Output 10: Education</i>		
10.1* Study the related education curriculum	Ongoing	POPs course offering for university, primary and secondary education
10.2 Prepare textbook and training materials and train university teachers	Ongoing	
10.3 Prepare textbook and training materials and train primary and middle school teachers	Ongoing	
10.4 Carry out demonstrations of POPs education	Ongoing	
10.5 Design and implement an on-line POPs education programme	Ongoing	
10.6 Organize training workshops for mayors of cities	Not yet started	
<i>Output 11: Project management, monitoring and evaluation</i>		
11.1* Establish the national project management office (PMO)	Finished	PMO was established in CIO/MEP
11.2* Establish 3 local project implementation units (PIU)	Finished	4 PIUs established in Guangdong, Shanghai and Ningbo as planned
11.3* Establish a National Coordination Group (NCG)	Finished	Steering Group and working mechanism established; project expert and technical experts recruited; core expert group for medical institution management established
11.4 Recruit and sustain employment of national experts and subcontractors	Ongoing	
11.5 Prepare annual implementation plans and reports	Ongoing	Inception workshop held; Hold Tripartite Review meetings annually; project review meeting held twice; formulation of annual work plan for 2008, 2009 and 2010;
11.6 Prepare and hold the meetings of the TCG	Ongoing	
11.7 Designate a project focal point within UNIDO	Ongoing	Complete 2008, 2009 project auditing and progress report; midterm assessment being undertaken
11.8 Conduct Project Implementation Reviews	Ongoing	
11.9 Provide independent management and financial reviews	Ongoing	

Generally, the SIRE project was implemented on a very solid scientific basis, involving local EPB, leading research entities and enterprises (having international standard laboratories) in China both at Central (Beijing) and Provincial level. National experts with strong scientific background coming from prestigious universities like Tsinghua University or Beijing University were recruited to assist in project implementation. Feedback obtained during interviews indicates that the guidance and input of these national experts were very crucial in the development and implementation of activities.

The evaluators were impressed with the state of the art instrumentation e.g. HRGC/HRMS or GC/MS/MS or HRLC/HRMS found in the modern dioxin laboratories (Ningbo EPB, South China Institute of Environmental Science, Guangzhou Institute of Geochemistry, BaoSteel and Tsinghua University) that they visited during the field mission. These laboratories, which carry out monitoring activities to support this project and local environmental management, participated successfully in an inter-calibration exercise in which more than 40 dioxin international laboratories participated.

Overall, the effectiveness of the project is satisfactory. Indeed most of project objectives stated in the Project Document at the mid-term have been satisfactorily achieved thanks not only to the dedication and hard work of the CIO team but also due the good strategic approach that has been used. However, some objectives like technology transfer or education have not yet been fully reached. Also, the effectiveness of the project implementation is enhanced since the POPs reduction issue and Stockholm Convention implementation are included in 12th 5 year plan for environment protection at both central and provincial level.

The capacity of relevant stakeholders at central level was improved, policy framework was preliminarily established and co-financial support is effective under the project; appropriate environment created: government-leading, business-orientation, broad public participation, and international communication & support was achieved in demonstration area. The high level of local contribution both in cash and in kind helped to achieve these goals.

The project focuses on the cross-cutting capacity building activities with regard to all categories of POPs obligated under the Convention. In general, such synergies can therefore be an effective way to ensure effectiveness and efficiency and consequently, result in a significant cost-effectiveness. It significantly increased the public and stakeholders' awareness, especially the population in high-risk POPs exposure areas (e.g. farmers regarding POPs pesticides and alternatives to them or residents in area near power equipment regarding PCB-containing electrical equipment).

The project will strengthen China's institutional capacities directly or indirectly for enforcement by group of monitoring stations and laboratories capable of undertaking standardized POPs monitoring, including more than 265 existing environmental monitoring centers/laboratories network mainly located in pilot provinces, 13 laboratories for dioxin monitoring and 33 Centre for Disease Control and Prevention (CDC) laboratories for POPs related health monitoring. Also, convention compliance requirements were mainstreamed into existing environmental protection instruments, including funds mobilization, environment protection programs, R&D, technology transfer, data collection and information management, inspection and enforcement and evaluation.

Specialized organizations were established within this project, including three local CIOs in pilot provinces, an information centre and a service-oriented Technology Transfer Promotion Centre (TTPC) at the national level supporting the public and private partnership and the motivated wide range of cooperation among research bodies, enterprises and government on anti-POPs initiatives. Institutional capacity was improved for national coordination, decision-making, organization and execution and monitoring and supervision. The institutions whose capacities were enforced include the National Coordination Group, the CIO, 14 relevant ministries, about 20 industrial associations and more than 40 provincial and municipal departments.

3.3. Efficiency

For implementation of the project, UNIDO adopted the following approach: a large subcontract of GEF funds (4,450,270 \$) to the main partner FECO/MEP plus a smaller component (959,730 \$) directly UNIDO executed. In this respect, a subcontract was signed between UNIDO and FECO/MEP and the terms of reference of the subcontract contained all the activities as described in the SIRE project document. Since the large subcontract was given to the national project counterpart, this part of the project can be regarded as nationally executed. The recruitment of the international experts was executed by UNIDO using the agency execution model. Overall, the project applied a “mixed execution” approach. This approach is considered efficient as compared to full agency execution. It provided for more flexibility in the management of funds (for example for the reallocation of funds) and it allowed for more efficient substantive backstopping or project supervision than the typical UNIDO agency execution.

Mobilization of co-funding was high (Central MOF, local government and enterprises) and contributed to the efficiency of GEF funding. China has invested 175 million RMB for monitor capacity-building. 7 dioxin monitoring centers were under construction in Beijing, Shenyang, Hangzhou, Guangzhou, Xi'an, Chongqing, Wuhan and other cities, which undertake supervisory dioxin monitoring tasks of national hazardous waste and medical waste disposal facilities, solid waste incineration and other sources. Ningbo invested 7 million RMB for a dioxin monitoring laboratory. It should be highlighted the effort put by Baosteel Group, a private company involved in steel production, which devoted 15 million RMB for dioxin monitoring capacity building.

A total of 20 subcontracts were funded by the contribution of the GEF. The sample reviewed by the evaluation team produced tangible outputs of good quality. Timely implementation of activities and good quality of inputs contributed to high efficiency. It was felt from CIO that the current limit (20,000 \$) to seek approval from UNIDO for procurement was too low. According to feedback gathered during interviews, increasing this limit (e.g. 50,000 \$) would definitely contribute to increase efficiency of project implementation.

The project is just creating a more coherent, consistent and responsive framework of laws, regulations, administrative rules and technical standards in place to support the Stockholm Convention compliance, with support of high ratio co-finance from government and enterprise counterpart. Table 5 lists the major input of counterparts by co-financing till the mid-term.

Table 5 Status of project co-finance at midterm

<i>Activities for each Output</i>	<i>GEF</i>	<i>Co-finance</i>
<i>Output 1. Sound policy and regulatory framework</i>		
1.1 Establishment or amendment of 21 laws and regulations		
1.2 Draft 11 National Administrative Rules on POPs Reduction and Control. Industrial policy adjustment	90,000	
1.3 Develop or revise the 33 technical policies, guidelines, standards -Meeting	8,374	
1.4 Incorporate the Convention requirement	32,000	
<i>Output 2. Mechanisms and tools for financing</i>		

<i>Activities for each Output</i>	<i>GEF</i>	<i>Co-finance</i>
2.1 Identify the principal stakeholders		
2.2 Determine the principles and mechanism for the responsibility sharing	60,294	29,412
<i>Output 3: Environmental monitoring</i>		
3.1 Develop a unified monitoring programme		RCEES
3.2 Train monitoring of pesticides POPs and PCBs in environmental samples		RCEES
3.3 Organize training for the existing dioxins monitoring laboratories		Tsinghua University
<i>Output 4: Research & Development</i>		
4.1 Establish the coordination mechanism		FECO
4.2 Regularly evaluate the progress of national R&D activities	32,000	
4.3 Establish an incentive programme for promoting R&D results	215,000	
<i>Output 5: Technology transfer</i>		
5.1 Establish an assistance oriented Technology Transfer Promotion Centre		88,235
5.2 Enable the centre to work as a technology information clearinghouse		66,176
5.3 Assist enterprises in optimizing the technical and engineering design (40%) -FECO		FECO
<i>Output 6: Data collection, processing and reporting</i>		
6.2 Strengthen the integration of the information		29,412
6.5 Analyze and disseminate information	20,000	
<i>Output 8: Evaluation</i>		
8.1 Establish a working team for evaluation	28,000	
<i>Output 9: Public awareness</i>		
9.2 Establish partnerships with other environmental awareness of promotion programme	858,000	
9.3 Make materials for raising public awareness of POPs issues		119,000
<i>Output 10: Education</i>		
10.1 Study the related education curriculum	16,000	
10.3 Prepare textbook and training materials and train primary and middle school teachers	135,000	
<i>Output 11: Project management, monitoring and evaluation</i>		
Ningbo EPB	150,000	600,000
Shanghai EPB	52,000	56,000
Guangdong EPB	150,000	
Shanxi EPB	220,000	

3.4 Sustainability

Chances for sustainability and impact are much higher in China than in many other developing countries, due to the high level of co-funding and significant policy and regulation framework formed. China makes not only the commitment of the convention implementation and its development of a NIP that provides initiatives to mainstream the objectives of the Convention into the nation's twelve-fifth development program and relevant policies and strategies, but also its initiation on the basic and foundational capacity building that are intended to be permanent and will be able to ensure that China moves successfully from development to the subsequent implementation of its plan.

The project aims to establish basic, foundational and permanent capacities in the view of the obligations of the Convention to be implemented by 2010 nationwide and test the advanced approaches in the focal provinces. Project sustainability will be assured through a combination of the following: integration of the requirements of the Convention into the policy framework, active participation of stakeholders, institutional strengthening of the capacity for enforcement, establishment and/or strengthening of the capacity in the fields of monitoring, R&D, technology transfer, management information system and reporting and raising awareness among various stakeholders.

In the policy and regulation aspect, the obligations under the Convention are integrated into the existing environmental and chemicals management policies, national standards and guidelines accordingly. The Government is strongly committed to move ahead with replication as the existing policy and regulatory framework for POPs is incomplete and does not allow the effective and efficient implementation of the Stockholm Convention's obligations. The first step in this direction would be the development and formulation of the new National Administrative Regulations on POPs Reduction and Control that will be based on the gap analysis of Chinese legislation made during the NIP preparation.

In the institutional aspect, CIO, responsible for implementation of POPs projects including the SIRE project, is a permanent body within FECO; it comprises 25 full staff members involved in the implementation project activities. Enforcement capacities are strengthened and the requirements on management, inspection and supervision of POPs issues are taken into the routine tasks by relevant administrations. The foundational capacity for monitoring in the view of POPs established through the improvement of relevant methodologies for monitoring, strengthening the monitoring management and the capacity of existing monitoring and laboratories and taking measures in order to obtain comparable and reliable monitoring data. Also, a permanent platform will be established for technology transfer promotion.

Through awareness raising campaigns and involvement in the project activities, relevant stakeholders are getting acquainted with the obligations of the Convention and are willing to take actions as required through various trainings. The information collection channels was established for the chemicals listed in Annex A and B of the Convention and the MIS system constructed at central level will be strengthened through local involvements. POPs concept are integrated in the education at all levels from school to university, as well as in education of teachers. There is an active interplay with transfer of knowledge between the central level and provinces, regions and municipalities. The effective approaches to implement such project with multi-level objectives, and broad stakeholder

participation will be a good example for similar project implementation, especially, for the implementation of a further capacity building project.

In the funding aspect, the established mechanism between CIO/MEP and the main R&D financial sources has identified R&D in POPs as a the priority field for support. For example, the state of the art instrumentation that the evaluators visited was purchased by the local co-funding. Some examples of state of the art equipment purchased are HRGC/HRMS or GC/MS/MS or HRLC/HRMS found in the modern dioxin laboratories (Ningbo EPB, South China Institute of Environmental Science, Guangzhou Institute of Geochemistry, BaoSteel and Tsinghua University). As mentioned earlier these laboratories participated successfully in a dioxin inter-calibration exercise that indicates the high level of competency of the staff members working in those laboratories..

In the environmental management aspect, there is, as far as practicable, linkages between the capacity building for POPs with capacity building for other environmental issues and for the nation's broader environmental policies and strategies. POPs Management and Control is just being compiled to integrate the relevant policy, experiences and lessons gained, and the experiences and lessons learned will be summarized and disseminated to other areas in China and other countries pending such experiences through a dissemination workshop and POPs website.

In the reliability aspect, the project is designed to enable China to establish the basic and foundational capacity for the Convention implementation and to test the advanced approaches at the 4 demonstration provinces in order to further strengthen the systemic enforcement and/or implementation capacity at the provincial level. The feasible experiences gained in the focal provinces would be disseminated across the country and would eventually be beneficial to other provinces. A dissemination workshop is planned to introduce the experiences gained to the interested stakeholders and participants from other countries, with a view to promoting the replication of the experiences with suitable modification to other countries.

Moreover, the SIRE project will provide opportunities to invite donor support for proposals for future capacity building programmes, which will be based on the experiences gained and the broadened obligations in order to enable China to meet its obligations under the Convention continuously. This will ensure the sustainability and continuous employment of locally recruited project personnel to continue their respective activities focusing on country-wide replication of project results and China is already committed to provide high level of both in kind and in cash co-funding. With such an arrangement important institutional structures will also be sustainable.

3.5 Implementation approach, monitoring and evaluation

3.5.1 Implementation approach

For implementation of the project, UNIDO adopted the following approach: a large subcontract of GEF funds (4,450,270 \$) to the main partner FECO/MEP plus a smaller component (959,730 \$) directly UNIDO executed. In this respect, a subcontract was signed between UNIDO and FECO/MEP and the terms of reference of the subcontract contained all the activities as described in the SIRE project document. Since the large subcontract was given to the national project counterpart, this part of the project can be regarded as nationally executed. The recruitment of the international experts was executed by UNIDO using the agency execution model. Overall, the project applied a "mixed execution" approach. This approach is considered efficient as compared to full agency

execution. It provided for more flexibility in the management of funds (for example for the reallocation of funds) and it allowed for more efficient substantive backstopping or project supervision than the typical UNIDO agency execution.

The project is benefitting from the infrastructure (CICG and CIO) put in place in 2003 for NIP development. The implementation followed the approach originally agreed upon by stakeholders and as planned in PD. A national project management team (PMT) coming from the Convention Implementation Office (CIO), a division of FECO, has been established from which a national coordinator has been nominated. The different committees and groups (e.g. TCG, MEP Steering Group) at national and local level have been established for the proper implementation, supervision and monitoring of project activities. For implementation of project activities at local level, sub-contracts were signed with the selected provinces / cities and with the help of PMT, the appropriate infrastructure like local CIOs were established in these demonstration provinces as discussed in earlier sections

3.5.2 Monitoring and evaluation

Key indicators for project implementation were designed and indicators for results (outcomes and, if applicable, impacts) were identified at the corporate level. The project management office and the project's UNIDO focal point developed criteria for participatory monitoring of the project activities. Quantitative key indicators include: new laws/regulations, administrative rules, policies / guidelines / standards, advanced provincial regulations for POPs reduction and elimination, group of monitoring stations and laboratories capable of undertaking standardized analysis and monitoring, POPs monitoring centres/laboratories network, laboratories for dioxin monitoring, centre for Disease Control and Prevention (CDC) laboratories for POPs related health monitoring, convention compliance requirements mainstreamed into existing environmental protection instruments, specialized organizations established (provincial CIOs, information centre, service-oriented Technology and Transfer Promotion Centre), enterprises trained, individuals being trained, functioning of coordination mechanism between the Implementing Agency, national executing agency and its partner stakeholders within and between the government, academia, enterprises and the public, percentage of the population in high-risk POPs exposure areas aware of the need for protective action, reports on relevant financing tools, workshops and consultations on relevant financing tools.

The overall monitoring of SIRE project was performed by UNIDO through the project manager. However during field mission, it was found that the involvement of the UNIDO Regional Office in the project was very low. Only a temporary UNIDO officer (an intern: collaboration with Australian Government) was involved in helping to edit draft reports, but not in supervision or monitoring of project activities. With a significant POPs portfolio in the country, UNIDO, Head Quarters in Vienna could increase efficiency of its supervisory and management functions by delegating some activities to the regional office in Beijing. For example, by decentralizing activities like procurement or other administrative duties to the regional office could significantly improve in the efficiency of the project. Indeed, feedback obtained during field mission clearly indicate that delays to the project were partly due procurement procedures and time taken at UNIDO Headquarters for approval of these procurements, which could significantly be shortened if these decisions were taken at the regional office level.

Adequate monitoring was done by CIO through request of progress reports from sub-contractors, review of reports submitted, field visits. Appropriate participatory mechanism and methodology for performance M&E was established at the very outset of the project. M&E activities were based on the Logical Framework Matrix. Internal daily monitoring was implemented by following the regulated process for procurement and financial payment. The overall M&E format for the project followed the instructions and guidelines of the GEF M&E unit and was laid out in details at the Inception workshop.

The SIRE project includes a concrete and fully budgeted monitoring and evaluation plan, as shown in table 6. Project Inception Workshop was held on May 21-22, 2008 and a detailed Annual Workplan with clear indicators and corresponding means of verification for the first year of the project was proposed. In the central level the project is aiming at establishing a government-led, business-oriented, broad public participation on POPs Convention implementation in the industry. At local level, provinces that were in favour of reduction and control of POPs and that were already undertaking some activities in this area were selected to be demonstration provinces.

Table 6 Monitoring and evaluation of SIRE project

Item	Responsible	Budget (US\$)	Remarks
Progress reports and financial statement	PMO	60,000	Implemented and available for the year 2008 and 2009.
Project Implementation Reviews (PIRs)	PMO and UNIDO	80,000	Implemented and available for the year 2009.
Report of the Annual Review meeting	UNIDO	(UNIDO)	Implemented and available for the year 2008 and 2009
Mid-term review report	UNIDO	(UNIDO)	This report is just for mid-term evaluation.
Terminal evaluation report	Independent expert	(included in the PIR cost)	Will be implement at the end of the project
Financial audit report	Independent audit firm	30,000	Annually implemented, the auditing report is available for the year 2008 and 2009.
TOTAL		170,000	

In accordance with the GEF requirements, submission of progress reports and plan for future work at 3 meetings 2008, 2009 and 2010, quarterly Progress reports were provided to GEF during the project implementation. MEP/FECO, as the national implementing agency, prepared and submitted the Annual Project Report (APR)/Project Implementation Report (PIR) to GEF. APR/PIR was also reported to Tripartite Review at the annual Technical Coordination Group (TCG) meetings and circulated to TPR/TCG participants well in advance. Till this mid-term evaluation, two national financial audits were performed in 2008 and 2009. Two tri-party evaluation workshops were held in 2008 and 2009.

3.6 Overall project achievement rating

According to the TOR of this evaluation (annex), it is required to assess and rate the different categories of the project from Highly Satisfactory (HS) to Highly Unsatisfactory (HU). The rating for sustainability sub-criteria ranges from Likely (L) through Moderately Likely (ML) through Moderately Unlikely (MU) to Unlikely (U). The table below gives this assessment and brief comments on points already discussed in the report.

Table 7 Overall project achievement rating

Criterion	Evaluator's summary comments	Evaluator's Rating
Attainment of project objectives and results (overall rating) Sub criteria (below)	Most of project objectives satisfactorily achieved	S
<i>Effectiveness</i>	Effectiveness high - NIP adopted and endorsed by central government	HS
<i>Achievement of outputs and activities</i>	High quality outputs produced	HS
<i>Relevance</i>	Project highly relevant given incidence POPs in the country	HS
<i>Efficiency</i>	High level of co-financing mobilized from bilateral donors, however demonstration projects not successful	S
Sustainability of project outcomes (overall rating) Sub criteria (below)	Chances are high for sustainability given the strong central government and high level of funds already secured	L
<i>Financial</i>	GEF funds for follow up projects already secured, high level of bilateral and local co-financing	L
<i>Socio Political</i>	Strong central government and strong commitment to meet Convention requirements	L
<i>Institutional framework and governance</i>	Appropriate infrastructure in place (FECO/MEP – CIO) with appropriate monitoring from NCG	L
<i>Ecological</i>	The Stockholm Convention is about the sound management of toxic chemicals	L
Monitoring and Evaluation (overall rating) Sub criteria (below)	Monitoring and evaluation appropriate, however CIO reporting to UNIDO could improve	S

Criterion	Evaluator's summary comments	Evaluator's Rating
<i>M & E Design</i>	Adequately planned, but the independent national expert review group did not function properly	S
<i>M & E Plan Implementation (use of adaptive management)</i>	UNIDO adapted to situations e.g. PM stayed longer in China to assist in improving NIP draft –	HS
	CIO / FECO followed appropriate rules so as to meet requirements of international executing agency (WB, UNIDO, UNDP) or bilateral donors (Italy, Canada)	
<i>Budgeting and Funding for M & E activities</i>	Appropriately planned -International experts recruited to provide very useful technical guidance	HS
Catalytic Role	Provinces where project was not run showed interest	S
Quality at entry and implementation approach	Leading international agencies and leading research institutes involved, implementation approach based on continuity (PDF-B phase)	HS
Country ownership / driveness	High ownership	HS
Stakeholders involvement	Involvement of key stakeholders at central and provincial level	HS
Financial planning	Disbursement of funds could be improved	S
UNIDO Supervision and backstopping	Adequate, however more guidance could have been provided at initial stages of NIP drafting	S
Overall Rating	Highly relevant, effective and very efficiently run project – High quality outputs developed	S

4 Conclusions, Recommendations and Lessons Learnt

4.1 Conclusions

In this mid-term evaluation, it was found that this GEF-funded project “Strengthening Institutions, Regulations and Enforcement Capacities for Effective and Efficient Implementation of the National Implementation Plan in China (SIRE)” is a highly relevant, effective and very efficiently run project. Ownership of the project is very high, and China is fully committed to implement the NIP, having invested considerably since the start of the project. The national and local implementation of Stockholm Convention is mainstreamed into the 12th-five year national development program, which ensures the continuing success of project implementation and achievement of the project objectives and outputs. The implementation approach, combining UNIDO execution of international expertise with national execution of national expertise is contributing significantly to the overall good performance of the project.

However, given the size of the country and the complexity of POPs issues, it will be essential for China to continue to benefit from the Convention’s financial support, and the technology transfer mechanism for full implementation to ensure impact. Finally, the Chinese SIRE project provides useful experiences for the GEF, the international agencies and for other countries.

4.2 Recommendations

Conclusion/Context	Recommendation	Follow up by
Since the development of the NIP, China is fully committed to implement the Convention and has invested considerably for the management of POPs. The SIRE project is being run in four demonstration provinces and cities with the project funds being used for local level Stockholm Convention implementation capacity building, where the economic baseline and environment awareness are in the higher level in China. Considering the unbalance existing of economic development and environmental management in different provinces and cities, it will be essential that China continue to benefit from the Convention’s financial support mechanism to ensure replication and sustainability of the SIRE project in other provinces especially the provinces with weak economic bases.	<ul style="list-style-type: none"> • The institutional capacity building in provincial and local level is urgently needed to implement the Stockholm Convention in a sustainable way. The SIRE project should cover and benefit more provinces and cities. • Sustained effort for promotion of the SIRE project in other provinces are recommended at central and provincial level. • Outcomes and experiences should be summarized for replication of the program in other provinces. 	<ul style="list-style-type: none"> • CIO/FECO, other local agencies. • CIO/FECO and local EPBs • CIO/FECO, Project team
Some of outputs that should have been completed at midterm, but due to various reasons like delay in funds transfer, the	<ul style="list-style-type: none"> • The PMT, CIO and UNIDO should closely monitor the delayed outputs and activities and provide guidance 	<ul style="list-style-type: none"> • CIO, UNIDO, PMT

Conclusion/Context	Recommendation	Follow up by
activities of these outputs are still on-going.	if needed until completion.	
The whole project is about the building and strengthening capacity for the management and monitoring of POPs in the demonstration provinces.	<ul style="list-style-type: none"> Implementation and enforcement of policies related to POPs in demonstration provinces should be explicitly monitored by local EPBs and CIO. 	<ul style="list-style-type: none"> CIO/FECO and local EPBs
To be in line with the Stockholm Convention, China is also fully committed to take measures for preventing POPs, and has invested significantly in the construction of its POPs monitoring capacity, especially the Dioxin Labs in demonstration cities. In order to promote and replicate the project outputs, it is essential to enhance the POPs monitoring ability in other relevant provinces.	<ul style="list-style-type: none"> Effort should be made to mobilize funding from authorities, private sector, international agencies and / or bilateral donors to ensure the POPs monitoring capacity building in other provinces. 	<ul style="list-style-type: none"> GEF, UNIDO, CIO/FECO, other potential co-financial agencies.
The establishment of technology transferring center and actual technology transfer are important outputs of SIRE project. The purpose of technology transfer is to aid China getting new ideas, inventions and technologies developed by developed countries as quickly as possible in a form useful to promote the POPs pollution control and waste disposal. The survey on POPs technology transfer needs and preliminary assessment of POPs alternatives, reduction and disposal technology was just being implemented in the SIRE project. However, the process of establishment of technology transferring center and actual technology transfer was delayed according to the implementation plan designed in PD.	<ul style="list-style-type: none"> Substantial technology transfer should be promoted in the further project implementation; Until completion of the project, continuous international financial support needs to be ensured for the incremental cost of POPs elimination and pollution prevention in the local enterprises. 	<ul style="list-style-type: none"> CIO, UNIDO, academia institutes and industrial enterprises concerned GEF, UNIDO, CIO/FECO, other potential co-financial agencies.
During recent years UNIDO has built up a significant POPs portfolio in the country. However, so far there is no involvement of UNIDO regional office in project implementation or monitoring. Only a temporary UNIDO officer (an intern: collaboration with Australian Government) was involved in helping to edit / correct draft reports.	<ul style="list-style-type: none"> UNIDO should increase efficiency of its supervisory and management functions either by installing relevant capacity (e.g. a technically specialized staff) at the regional office in Beijing or by delegating some activities to the regional office in Beijing. 	UNIDO
Little contribution was found from international experts and international	<ul style="list-style-type: none"> More international experts and experiences in developed countries 	UNIDO, CIO, EPBs, relevant

Conclusion/Context	Recommendation	Follow up by
institutes in the SIRE project during the mid-term evaluation.	should be involved in the SIRE project, especially in the technology transfer component.	academica institutes and industrial enterprises
In the documents submitted by CIO to the evaluation team, there was no evidence of any NGO participating in this project.	<ul style="list-style-type: none"> CIO and PMOs should consider the participation of NGOs in the project. 	CIO, PMOs

4.3 Lessons learned

- Country ownership and strong government are key factors for successful project implementation;
- The mixed form of agency execution and national execution (through sub-contracts to counterparts) is a very efficient implementation modality when the national capacities are sufficient (substantive competence, procurement, financial management, auditing) and government support is strong;
- A comprehensive management mechanism and adequate involvement of a wide range of stakeholders (IA/EA, international community, government, technical entities, local authorities and NGO) in all important events, including inception, TCG, regional workshops and consultation, etc. are the basis to achieve project objectives effectively;
- Establishment of Convention implementing institution, general strategy and attention from high-level offices is essential for the implementation and promotion of local inputs;
- Experiences in Guangdong, Ningbo and Shanghai showed that a demonstration and administrative management from central to local is quite effective for local convention implementation;
- Incorporate the objectives of convention implementation into the national & local economic and social development plan and list BAT/BEP in the requirement of industrial structure adjusting and upgrading will provide a good opportunity to attain financial support to promote the POPs elimination.

Annex 1 - Terms of Reference



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

Terms of Reference

Independent Terminal Evaluation of the UNIDO Projects:

Project Number: GF/CPR/07/008

ENVIRONMENTALLY SUSTAINABLE MANAGEMENT OF MEDICAL WASTE IN CHINA

and

Project Number: GF/CPR/07/009

***STRENGTHENING INSTITUTIONS, REGULATIONS AND ENFORCEMENT (SIRE) CAPACITIES
FOR EFFECTIVE AND EFFICIENT IMPLEMENTATION OF THE NATIONAL IMPLEMENTATION
PLAN (NIP) IN CHINA***

I. Project Background and overview

A) Project GF/CPR/07/009 – Strengthening institutions, regulations and enforcement (SIRE) capacities for effective and efficient implementation of the national implementation plan (NIP) in China

Project origin and objectives

The development of the National Implementation Plan (NIP) in China has been implemented by the Foreign Economic Cooperation Office (FECO) of MEP under a letter of agreement with UNIDO. It was supported by a full size project (GFCPR04002 “Building the capacity of the People’s Republic of China to implement the Stockholm Convention on POPs and develop a National Implementation Plan” – evaluated in 2008) approved by the GEF Council in May 2003, initiated on 21 September 2004 and completed in December 2008.

The overall objective of this successor project is to assist China to effectively and efficiently implement the Stockholm Convention by strengthening the institutions, regulations and enforcement and to enhance the capacities for the sound management of POPs at national and local levels. The concrete objective of this project is to create an enabling environment in China by establishing/amending laws, regulations and standards, strengthening institutions for monitoring, improving research and development (R&D), promoting technology transfer, facilitating data and information collection, enhancing supervision, enforcement and evaluation for continuous improvement and awareness raising of stakeholders on POPs issues.

According to the Project Document, the expected outcomes are as follows:

Outcome 1: Strengthened policy and regulatory framework for more effective implementation of the Stockholm Convention and NIP

Outcome 2: Strengthened institutions for more efficient implementation of the Stockholm Convention and the NIP

Outcome 3: Changed attitudes and behaviors to promote environmental protection

Outcome 4: Project management and oversight

Domestic benefits: With this project, China will be able to have the required capacities for implementing the Convention and the NIP within the timeframe of 2006-2010. Improved regulatory framework, legislation enforcement, monitoring, and public awareness from implementing the proposed project will yield significant domestic benefits, including:

- Introduction of advanced concepts and management experience to harmonize Chinese practices with international levels;
- Promotion of technology transfer and application;
- upgrade the industrial structure;
- increase environmental friendliness of Chinese products;
- Promotion of cleaner production; and
- Protection of the public health from POPs pollution.

Global benefits: With this project, China will be enabled to respond to the capacity building articles of the Convention effectively and efficiently. The regulatory framework and the institutional capacity to be strengthened by the project will upgrade China's management of POPs control and reduction to an internationally accepted level. The improved monitoring capacity will help to produce a more reliable and comparable inventory of POPs releases in

China. The various mechanisms, platforms and partnerships to be established will lay a fundamental basis for effective and efficient reduction and elimination of POPs in China and generate significant benefits for the protection of the global environment and human health.

Global benefits can be also achieved through dissemination of China's experience, which could serve as a reference for other developing countries.

Relevance to GEF programmes

GEF-3 efforts focused on supporting NIPs. Therefore, activities from GEF-4 will be characterized by a shift from preparation to implementation. In order to achieve the long-term success of the POPs Convention, strong emphasis will be placed on the sustainability of GEF interventions, focusing especially on countries whose policies and actions demonstrate their firm intention to follow-through on their commitment to the Convention. While completing the NIP development in China, this SIRE project design is consistent with the second Strategic Objectives for the period of GEF-4 in the focal area of POPs, which include:

- a. Continuing the GEF's National Implementation Plan (NIP) Program.
- b. Strengthening national capacities for NIP implementation, including assisting those countries that lag farthest behind to establish basic, foundational capacities for sound management of chemicals.
- c. Partnering in investments needed for NIP implementation to achieve impacts in POPs reduction.
- d. Partnering in the demonstration of feasible, innovative technologies and practices for POPs reduction.

Implementation arrangements

In order to guide the development of the NIP, China established a high-level intra-ministerial *National Coordination Group (NCG)* led by MEP (*national implementing agency (NIA)* for the project) and comprising of the National Development and Reform Commission (NDRC), Ministry of Foreign Affairs (MOFA), Ministry of Finance (MOF), Ministry of Commerce (MOFCOM), Ministry of Science and Technology (MOST), Ministry of Agriculture (MOA), Ministry of Public Health (MPH), Ministry of Construction (MOC), General Administration of Customs (GAC), and the State Electricity Regulatory Commission (SERC). The Foreign Economic Cooperation Office (FECO) of MEP will act as the *national executing agency (NEA)*. The *Convention Implementation Office (CIO)* was established to assume responsibility for the day-to-day management of the development process and serve as a liaison office for the implementation of the Convention. The CIO reports to the coordination group on important issues and implements its decisions.

UNIDO is the GEF *Implementing Agency (IA)* for the project. It is responsible for the overall management of the project and its funds. It assists the National Executing Agency (NEA) in the execution of the project through the provision of timely assistance at key phases of project implementation, in the review of investigations and reports prepared as outcomes to the project, in the disbursement of funds necessary for the recruitment of international experts and other related international expenditures and in guiding the NIA to fulfill its obligations under the Stockholm Convention. UNITAR will assist UNIDO in the execution of the activities with regard to the training and public awareness raising, in line of the Memorandum of Understanding (MoU) signed by these two organisations.

Managerial responsibilities for the full project will be delegated to a *Project Management Office (PMO)* to be established within FECO/MEP, and a *National Project Manager (NPM)* will be recruited for the day-to-day project management.

The Technical Coordination Group (TCG) chaired by MEP and established during the NIP development will continue its functions for the implementation of this project. MEP will establish independent peer review mechanisms at national level and commission independent international reviews at key milestones.

Three Local Convention Implementation Units (LCIUs) were to be established under the guidance of the CIO to facilitate the project implementation at the local level. Their responsibilities include planning, coordination and organization of trainings, awareness raising and inspections, supervising

the project implementation at local level, and collecting information and compiling progress reports. A special *Technology Transfer Promotion*

Centre (TTPC) was to be established to act as technology information clearinghouse.

Budget Information

a) Overall Cost and Financing (including co-financing):

Output	CO-FINANCE (US\$)							Co-Financing Total
	GEF (US\$)	UNIDO	MOF ¹	MEP ²	THU*	RCESS*	Italy	
1. Policy and Regulatory framework	740,000		480,000	920,000			300,000	1,700,000
2. Mechanisms and tools for financing	340,000		320,000				100,000	420,000
3. Environmental Monitoring	420,000		70,000	230,000		750,000		1,050,000
4. Research and Development	380,000		300,000	425,000	150,000			875,000
5. Technology transfer	480,000		240,000	160,000	400,000			800,000
6. Data collection, processing and	580,000		320,000	590,000				910,000

¹ The Chinese Ministry of Finance (MOF)

² The Ministry of Environmental Protection (MEP)

* Local Chinese NGOs

reporting

7. Institutional

strengthening

for decision

making and

legislation

enforcement

630,000	430,000	350,000	500,000	1,280,000
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8. Evaluation

330,000	200,000	200,000	200,000	600,000
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9. Public

awareness

490,000	320,000	50,000	250,000	620,000
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10. Education

410,000	250,000	150,000	150,000	560,000
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11.

managem

ent,

monitoring &

610,000	200,000	810,000	1,010,000
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evaluation and

follow-up

GRAND	5,410,000	200,000	3,750,000	2,875,000	750,000	750,000	1,500,000	9,825,000
TOTAL								

Source: project document

b) UNIDO budget (GEF funding excluding agency support cost):

	Total Allotment (US\$)	Disbursement (US\$)	Unliquidated Obligation (US\$)	Uncommitted Balance (US\$)
Personnel	1,037,850	291,725	40,532	705,593
Contracts	4,320,650	1,944,293	3,456,520	-1,080,163
Training	39,500	12,921	16,739	9,841
Miscellaneous cost	12,000			12,000
<i>Total</i>	<i>5,410,000</i>	<i>2,248,939</i>	<i>3,513,790</i>	<i>-352,729</i>

Source and date of information: UNIDO Infobase, September 2010

II. Objectives and scope of the evaluation

The purpose of the terminal evaluation is to enable the Government, counterparts, the GEF, UNIDO and other stakeholders and donors to:

- (a) verify prospects for development impact and sustainability, providing an analysis of the attainment of global environmental objectives, project objectives, delivery and completion of project outputs/activities, and outcomes/impacts based on indicators. The assessment includes re-examination of the relevance of the objectives and other elements of project design according to the project evaluation parameters defined in chapter IV.
- (b) Enhance project relevance, effectiveness, efficiency and sustainability by proposing a set of recommendations with a view to ongoing and future activities.
- (c) Draw lessons of wider applicability for the replication of the experience gained in this project in other projects/countries.

- (d) Contribute to the findings of the UNIDO Country evaluation in China, which will be carried out in parallel
- (e) Contribute to the findings of the thematic evaluation of UNIDO POPs activities

The key question of the evaluation is whether the projects have made a significant contribution to reducing the effects of POPs on human health and the environment.

III. Methodology

The evaluation will follow UNIDO and GEF evaluation guidelines and policies. It will be carried out as an independent in-depth evaluation using a participatory approach whereby the UNIDO staff associated with the projects is kept informed and regularly consulted throughout the evaluation. The evaluation team leader will liaise with the UNIDO Evaluation Group (EVA) on any logistic and/or methodological issues to properly conduct the review.

The methodology will be based on the following:

1. A desk review of project documents including, but not limited to:
 - (a) The original project document, monitoring reports (such as progress and financial reports to UNIDO and GEF annual Project Implementation Review reports), output reports (case studies, action plans, sub-regional strategies, etc.) and relevant correspondence.
 - (b) Notes from the NPMT and Steering Group meetings.
 - (c) Other project-related material produced by the project.
2. The evaluation team will use available models of (or reconstruct if necessary) theory of change for the different types of intervention (enabling, capacity, investment, demonstration). The validity of the theory of change will be examined through specific questions in interviews and possibly through a survey of stakeholders.
3. Counterfactual information: In those cases where baseline information for relevant indicators is not available the evaluation team will aim at establishing a proxy-baseline through recall and secondary information.
4. Interviews with project management and technical support including Mr. Zengyou Peng, UNIDO Project Manager, Mr. Mohamed Eisa, Chief UNIDO POPs Unit, project staff in China and administrative staff associated with the project's financial administration if necessary.
5. Interviews with project partners, in particular the Government of the United States, MOF, MOH, MEP and the 6 enterprises that have been selected for co-financing as shown in Section D and E of the project document.
6. On-site observation of results achieved in demonstration projects, including interviews of actual and potential beneficiaries of improved technologies.
7. Interviews and telephone interviews with intended users for the project outputs and other stakeholders involved with this project. The evaluator shall determine whether to seek additional information and opinions from representatives of any donor agencies or other organisations.
8. Interviews with the UNIDO Country Office in China that will be visited by the evaluation team, the project's management group (FECO/MEP), and the various national and

- sub-regional authorities dealing with project activities as necessary. The evaluator shall also gain broader perspectives from discussions with relevant GEF Secretariat staff.
9. Other interviews, surveys or document reviews as deemed necessary by the evaluator and/or UNIDO EVA.

IV. Project Evaluation Parameters

The **ratings for the parameters described in the following sub-chapters A to E will be presented in the form of a table** with each of the categories rated separately and with **brief justifications for the rating** based on the findings of the main analysis. An overall rating for the project should also be given. The rating system to be applied is specified in Annex 5.

A. Project relevance and design

Relevance to national development and environmental agendas, recipient country commitment, and regional and international agreements. See possible evaluation questions under “country ownership/drivenness” below.

Relevance to target groups: relevance of the project’s objectives, outcomes and outputs to the different target groups of the interventions (e.g. companies, civil society, beneficiaries of capacity building and training, etc.).

Relevance to the GEF and UNIDO: In retrospect, were the project’s outcomes consistent with the focal areas/operational program strategies of GEF? Were they in line with the UNIDO mandate, objectives and outcomes defined in the Programme & Budget and core competencies? Ascertain the likely nature and significance of the contribution of the project outcomes to the wider portfolio of the GEF Operational Programme (OP) #14.

Is the project’s design adequate to address the problems at hand? Was a participatory project identification process applied and was it instrumental in selecting problem areas and national counterparts? Does the project have a clear thematically focused development objective, the attainment of which can be determined by a set of verifiable indicators? Was the project formulated based on the logical framework approach? Was the project formulated with the participation of national counterpart and/or target beneficiaries?

B. Effectiveness: attainment of objectives and planned results (progress to date):

Assessment of project outcomes should be a priority:

- What outputs and outcomes has the project achieved so far (both qualitative and quantitative results)? Has the project generated any results that could lead to changes of the assisted institutions? Have there been any unplanned effects?.
- are the actual project outcomes commensurate with the original or modified project objectives? If the original or modified expected results are merely outputs/inputs, the evaluators should assess if there were any real outcomes of the project and, if there were, determine whether these are commensurate with realistic expectations from such projects.

- To what extent have the expected outputs and outcomes been achieved or are likely to be achieved? How do the stakeholders perceive their quality? Were the targeted beneficiary groups actually reached?
- Identify the potential longer-term impacts or at least indicate the steps taken to assess these (see also below “monitoring of long term changes”). Wherever possible, evaluators should indicate how findings on impacts will be reported to the GEF in future.
- Catalytic or replication effects: the terminal evaluation will describe any catalytic or replication effect of the project. If no effects are identified, the evaluation will describe the catalytic or replication actions that the project carried out. No ratings are requested for the project’s catalytic role.

C. Efficiency

Was the project cost effective? Was the project the least cost option? Was project implementation delayed, and, if it was, did that affect cost effectiveness? Wherever possible, the evaluator should also compare the costs incurred and the time taken to achieve outcomes with that for similar projects.

Have the donor, UNIDO and Government/counterpart inputs been provided as planned and were adequate to meet requirements? Was the quality of UNIDO inputs and services as planned and timely?

D. Assessment of sustainability of project outcomes:

Sustainability is understood as the likelihood of continued benefits after the GEF project ends. Given the uncertainties involved, it may be difficult to have a realistic a priori assessment of sustainability of outcomes. Therefore, assessment of sustainability of outcomes will give special attention to analysis of the risks that are likely to affect the persistence of project outcomes. This assessment should explain how the risks to project outcomes will affect continuation of benefits after the GEF project ends. It will include both exogenous and endogenous risks. The following four dimensions or aspects of risks to sustainability will be addressed:

- Financial risks.** Are there any financial risks that may jeopardize sustainability of project outcomes? What is the likelihood of financial and economic resources not being available once GEF assistance ends? (Such resources can be from multiple sources, such as the public and private sectors or income-generating activities; these can also include trends that indicate the likelihood that, in future, there will be adequate financial resources for sustaining project outcomes.)
- Sociopolitical risks.** Are there any social or political risks that may jeopardize sustainability of project outcomes? What is the risk that the level of stakeholder ownership (including ownership by governments and other key stakeholders) will be insufficient to allow for the project outcomes/benefits to be sustained? Do the various key stakeholders see that it is in their interest that project benefits continue to flow?

Is there sufficient public/stakeholder awareness in support of the project's long-term objectives?

- c. **Institutional framework and governance risks.** Do the legal frameworks, policies, and governance structures and processes within which the project operates pose risks that may jeopardize sustainability of project benefits? Are requisite systems for accountability and transparency, and required technical know-how, in place?
- d. **Environmental risks.** Are there any environmental risks that may jeopardize sustainability of project outcomes? The terminal evaluation should assess whether certain activities will pose a threat to the sustainability of the project outcomes. For example, construction of a dam in a protected area could inundate a sizable area and thereby neutralize the biodiversity-related gains made by the project.

E. Assessment of monitoring and evaluation systems and project management:

- **M&E design.** Does the project have a sound M&E plan to monitor results and track progress towards achieving project objectives? The Evaluation will assess whether the project met the minimum requirements for the application of the Project M&E plan (see Annex 4).
- **M&E implementation.** A terminal evaluation should verify that an M&E system was in place and facilitated timely tracking of progress toward project objectives by collecting information on chosen indicators continually throughout the project implementation period; annual project reports were complete and accurate, with well-justified ratings; the information provided by the M&E system was used during the project to improve performance and to adapt to changing needs; and projects had an M&E system in place with proper training for parties responsible for M&E activities to ensure that data will continue to be collected and used after project closure.
- **Budgeting and Funding for M&E activities.** In addition to incorporating information on funding for M&E while assessing M&E design, the evaluators will determine whether M&E was sufficiently budgeted for at the project planning stage and whether M&E was funded adequately and in a timely manner during implementation.
- **Monitoring of Long-Term Changes.** The monitoring and evaluation of long-term changes is often incorporated in GEF-supported projects as a separate component and may include determination of environmental baselines; specification of indicators; and provisioning of equipment and capacity building for data gathering, analysis, and use. This section of the terminal evaluation report will describe project actions and accomplishments toward establishing a long-term monitoring system. The review will address the following questions:
 - a. Did this project contribute to the establishment of a long-term monitoring system? If it did not, should the project have included such a component?
 - b. What were the accomplishments and shortcomings in establishment of this system?
 - c. Is the system sustainable—that is, is it embedded in a proper institutional structure and does it have financing?
 - d. Is the information generated by this system being used as originally intended?
- **Project management.** Were the national management and overall coordination mechanisms efficient and effective? Did each partner have specific roles and responsibilities from the beginning? Did each partner fulfill its role and responsibilities (e.g. providing strategic support, monitoring and reviewing performance, allocating funds, providing technical support, following up agreed/corrective actions...)? Were the UNIDO HQ based

management, coordination, quality control and technical inputs efficient, timely and effective (problems identified timely and accurately; quality support provided timely and effectively; right staffing levels, continuity, skill mix and frequency of field visits...)

- **Implementation approach**³. Is the implementation approach chosen different from other implementation approaches applied by UNIDO and other agencies? Does the approach comply with the principles of the Paris Declaration? Does the approach promote local ownership and capacity building? Does the approach involve significant risks?

F. Assessment of processes affecting attainment of project results

The evaluation will consider, but need not be limited to, the following issues that may have affected project implementation and attainment of project results:

- Preparation and readiness.** Were the project's objectives and components clear, practicable, and feasible within its time frame? Were the capacities of the executing institution(s) and its counterparts properly considered when the project was designed? Were lessons from other relevant projects properly incorporated in the project design? Were the partnership arrangements properly identified and roles and responsibilities negotiated prior to project approval? Were counterpart resources (funding, staff, and facilities), enabling legislation, and adequate project management arrangements in place at project entry?
- Country ownership/drivenness.** Was the project concept in line with the sectoral and development priorities and plans of the country—or of participating countries, in the case of multicountry projects? Are project outcomes contributing to national development priorities and plans? Were the relevant country representatives from government and civil society involved in the project? Did the recipient government maintain its financial commitment to the project? Has the government—or governments in the case of multicountry projects—approved policies or regulatory frameworks in line with the project's objectives?
- Stakeholder involvement.** Did the project involve the relevant stakeholders through information sharing and consultation and by seeking their participation in project design, implementation, and M&E? For example, did the project implement appropriate outreach and public awareness campaigns? Did the project consult with and make use of the skills, experience, and knowledge of the appropriate government entities, nongovernmental organizations, community groups, private sector entities, local governments, and academic institutions in the design, implementation, and evaluation of project activities? Were perspectives of those who would be affected by project decisions, those who could affect the outcomes, and those who could contribute information or other resources to the process taken into account while taking decisions? Were the relevant vulnerable groups and powerful supporters and opponents of the processes properly involved?
- Financial planning.** Did the project have the appropriate financial controls, including reporting and planning, that allowed management to make informed decisions regarding the budget and allowed for timely flow of funds? Was there due diligence in

³ Implementation approach refers to the concrete manifestation of cooperation between UNIDO, Government counterparts and local implementing partners. Usually POPs projects apply a combination of agency execution (direct provision of services by UNIDO) with elements of national execution through sub-contracts.

the management of funds and financial audits? Did promised cofinancing materialize?

- e. **UNIDO supervision and backstopping.** Did UNIDO staff identify problems in a timely fashion and accurately estimate their seriousness? Did UNIDO staff provide quality support and advice to the project, approve modifications in time, and restructure the project when needed? Did UNIDO provide the right staffing levels, continuity, skill mix, and frequency of field visits for the project?
- f. **Cofinancing and project outcomes and sustainability.** If there was a difference in the level of expected cofinancing and the cofinancing actually realized, what were the reasons for the variance? Did the extent of materialization of cofinancing affect project outcomes and/or sustainability, and, if so, in what ways and through what causal linkages?
- g. **Delays and project outcomes and sustainability.** If there were delays in project implementation and completion, what were the reasons? Did the delays affect project outcomes and/or sustainability, and, if so, in what ways and through what causal linkages?

G. Specific issues with regard to the thematic evaluation of UNIDO POPs activities.

The evaluation will give special attention to issues that are of relevance beyond the scope of the project under evaluation:

- Does UNIDO apply successful approaches that are replicable in other projects?
- Does UNIDO face systemic constraints that need to be addressed?
- Do UNIDO POPs projects contribute to other UNIDO objectives, such as improved environmental performance of industry, competitiveness of industry, pro-poor growth?
- Do UNIDO POPs projects generate local (environmental) benefits? Are global and local benefits linked?

H. Specific issues with regard to the UNIDO country evaluation in China

The evaluation team will liaise with the team leader of the country evaluation (field mission planned for January 2011) and provide inputs with regard to the respective evaluation questions.

V. Evaluation Team and Timing

The evaluation team will be composed of a one international evaluation consultant acting as team leader and one national evaluation consultant (to be selected jointly by UNIDO and the Government of China).

The evaluators will also participate as team members of the UNIDO Country Evaluation in China, which will be carried out in parallel. The team leader of the Country Evaluation will instruct the evaluators with regard to their inputs on POPs and related issues like cleaner production and environmental management.

UNIDO evaluation group will be responsible for the quality control of the evaluation process and report. It will provide inputs regarding findings, lessons learned and recommendations from other UNIDO evaluations, ensuring that the evaluation report is useful for UNIDO in terms of organisational learning (recommendations and lessons learned) and its compliance with UNIDO evaluation policy and these terms of reference.

The terminal evaluation team will be able to provide information relevant for follow-up studies, including terminal evaluation verification on request to the GEF partnership up to three years after completion of the terminal evaluation.

All consultants will be contracted by UNIDO. The tasks of each team member are specified in the job descriptions attached to these terms of reference.

Members of the evaluation team must not have been directly involved in the design and/or implementation of the programme/projects.

UNIDO Field Office in China will support the evaluation team. Donor representatives from the bilateral donor representations will be briefed and debriefed.

Timing

The evaluation is scheduled to take place in the period November 2010 to January 2011. The field mission for the evaluation is scheduled for November/December 2011.

After the field mission, the evaluation team leader will come to UNIDO HQ for debriefing. The final version of the evaluation report will be submitted 6-8 weeks after the debriefing at the latest.

VI. REPORTING

Inception report

This Terms of Reference provides some information on the evaluation methodology but this should not be regarded as exhaustive. After reviewing the project documentation and initial interviews with project manager(s) the International Evaluation Consultant will prepare a short inception report that will operationalize the TOR relating the evaluation questions to information on what type of and how the evidence will be collected (methodology). It will be discussed with and approved by the responsible UNIDO Evaluation Officer. The Inception Report will focus on the following elements: preliminary project theory model(s); elaboration of evaluation methodology including quantitative and qualitative approaches through an

evaluation framework (“evaluation matrix”); division of work between the International Evaluation Consultant and National Consultant; and a reporting timetable⁴.

Evaluation report format and review procedures

The evaluation team will produce two separate reports for both projects covered under these TOR.

The reports should be brief, to the point and easy to understand. It must explain; the purpose of the evaluation, exactly what was evaluated and the methods used. The report must highlight any methodological limitations, identify key concerns and present evidence-based findings, consequent conclusions, recommendations and lessons. The report should provide information on when the evaluation took place, the places visited, who was involved and be presented in a way that makes the information accessible and comprehensible. The report should include an executive summary that encapsulates the essence of the information contained in the report to facilitate dissemination and distillation of lessons.

Evidence, findings, conclusions and recommendations should be presented in a complete and balanced manner. The evaluation report shall be written in English and follow the outline given in annex 1.

The evaluation report shall follow the structure given in annex 1. The reporting language will be English.

Review of the Draft Report: Draft reports submitted to UNIDO Evaluation Group are shared with the corresponding Programme or Project Officer for initial review and consultation. They may provide feedback on any errors of fact and may highlight the significance of such errors in any conclusions. The consultation also seeks agreement on the findings and recommendations. The evaluators will take the comments into consideration in preparing the final version of the report.

Quality Assessment of the Evaluation Report: All UNIDO evaluations are subject to quality assessments by UNIDO Evaluation Group. These apply evaluation quality assessment criteria and are used as a tool for providing structured feedback. The quality of the evaluation report will be assessed and rated against the criteria set forth in the Checklist on evaluation report quality (annex 2).

The draft report will be delivered to UNIDO EVA and circulated to UNIDO staff associated with the project, including the UNIDO office in China. Any comments or responses to the draft report will be sent to UNIDO EVA for collation and onward transmission to the evaluation team leader; he/she will be advised of any necessary revisions.

⁴ The evaluator will be provided with a Guide on how to prepare an evaluation inception report prepared by the UNIDO Evaluation Group.

Annex 2 - Agenda of field mission in China

Date	Time	Activity	Institution /location
13-Jan-11			
	10:00 - 12:30	Initial meeting with UNIDO Beijing	UNIDO, Beijing country office
	14:00 - 15:00	Initial meeting with MOFCOM	MOFCOM, Beijing
	15:40	Initial meeting with CICETE/MOFCOM	CICETE/MOFCOM, Beijing
14-Jan-11			
	9:30-10:15	Initial meeting with FECO/MEP	FECO/MEP, Beijing
	10:15-12:00	Technical meeting with POPs divisions (CIO) of FECO	CIO/FECO, Beijing
	13:00-15:00	Technical meeting with FECO Division V	CIO/FECO, Beijing
	15:30-16:30	Technical meeting with NIHA	NIHA, Beijing
	17:00-17:30	Technical meeting with Institute of High Energy Physics (IHEP), Chinese Academy of Sciences (CAS)	IHEP, CAS, Beijing
17-Jan-11			
	9:00-10:30	Meeting with Xiaogan EPB	EPB, Xiaogan, Hubei Province
	10:30-12:00	Meeting and field visit, Xiaogan Central Hospital	Xiaogan Central Hospital
	14:00-16:30	Meeting and site visit with Medical Waste Treatment Center of Xiaogan	Medical Waste Treatment Center of Xiaogan
18-Jan-11			
	9:00-10:30	Meeting with EPB of Jiangxi Province	EPB, Jiangxi Province
	10:45-12:30	Meeting and site visit at Children Hospital of Jiangxi Province	Children Hospital of Jiangxi Province
	15:00-17:00	Meeting and site visit at Medical Waste Treatment Center of Nanchang	Nanchang waste treatment centre
19-Jan-11			
	9:30 – 11:30	Meeting with Guangzhou EPB	Guangzhou EPB

Date	Time	Activity	Institution /location
	13:30-14:30	Site visit of dioxin laboratories of in South China Institute of Environmental Science, MEP and Guangzhou Institute of Geochemistry, CAS	Guangzhou
20-Jan-11			
	9:00-10:30	Meeting with Ningbo EPB	Guangzhou EPB
	11:00-12:00	Site visit of dioxin laboratory of Ningbo	Ningbo
21-Jan-11			
	9:30-11:30	Meeting with Shanghai EPB	Shanghai EPB
	14:00-17:00	Meeting with BaoSteel and visit of dioxin laboratory of BaoSteel	BaoSteel, Shanghai
24-Jan-11	13:30-14:30	Site visit at pilot scale R&D plant at Jinan steel	Jinan
26-Jan-11	9:30 – 11:00	Presentation of preliminary findings to CIO/FECO	CIO/FECO, Beijing
27-Jan-11	14:30 – 17:00	Presentation of preliminary findings at UNIDO country office	UNIDO country office, MEP / FECO, Beijing

Annex 3 - List of persons met and consulted by evaluation team

Name	Position	Institution
Yu Lifeng	Deputy Director-General	Foreign Economic Cooperation Office, China Ministry of Environmental Protection (FECO/MEP)
Ding Qiong	Director of Division V	FECO/MEP
Zhou Xiaofang	Director of Division III	FECO/MEP
Wang Kaixiang	Deputy Director of Division III	FECO/MEP
Han Wenyan	Senior Project Officer	FECO/MEP
Jiang Chen	Senior Project Officer	FECO/MEP
Li Xin	Project Officer	FECO/MEP
Chen Yu	Project Officer	FECO/MEP
Su Chang	Project Officer	FECO/MEP
Qu Yunhuan	Project Officer	FECO/MEP
Gao Xinhua	Project Officer	FECO/MEP
Ren Zhiyuan	Project Officer	FECO/MEP
Liang Minghui	Director	National Institute of Hospital Administration (NIHA)
Gong Yuxiu	Dean	NIHA
Wu Yinghong	Director	People's Hospital of Peking University, Beijing Municipal Center of Quality Control Improvement on the Management of Hospital Infection
Xiong Wei	Director	Affiliated Tongji Hospital of Huazhong University, Hospital Infection Control Center of Hubei Province
Wu Anhua	Director	Xiangya Hospital affiliated to Central South University, Hospital Infection Control Center of Hunan Province
Shan Shujuan	Deputy Director	National Institute for Health Administration (NIHA)
Zhao Shuo	Project Officer	NIHA
Guo Shen	Project Officer	NIHA
Wang Zijia	Project Officer	NIHA
Dong Yan	Interpreter	
Chen Yang	Associate Professor	Institute of High Energy Physics (IHEP), CAS
Xu Diandou	Associate Professor	Institute of High Energy Physics (IHEP), CAS
Zheng Hailiang		Institute of High Energy Physics (IHEP), CAS
Zhang Li		Institute of High Energy Physics (IHEP), CAS
Yang Xiaozhi		Institute of High Energy Physics (IHEP), CAS
Mr. Huang	Secretary-General	Xiaogan Municipal Government
Mr. Gang	Director	Xiaogan Environmental Protection Bureau (EPB)
Mr. Chen	Section Chief	Xiaogan Environmental Protection Bureau (EPB)
Mr. Lu	Section Chief	Xiaogan Department of Health
Mr. Xiong	Director	Xiaogan Department of Pricing
Mr. Wu	Section Chief	Xiaogan Department of Pricing
Ms. Wen	Director	Xiaogan Central Hospital
Ms. Yang	Director	Xiaogan City Rehabilitation Hospital
Ms. Fang	Director	Xiaogan Maternal and Child Care Hospital
Ms. Jian		Interpreter
Mr. Chen	Manager	Medical Waste Treatment Center of Xiaogan
Ma Qiang	Deputy Director-General	Children Hospital of Jiangxi Province
Tu Chonghua	Director	Children Hospital of Jiangxi Province
Gong Xiaomin	Division Director	Department of Health of Jiangxi Province
Luo Youwu	Director	Children Hospital of Jiangxi Province
Xu Shujuan	Director	Children Hospital of Jiangxi Province

Name	Position	Institution
Xu Shuixi	Deputy Director-General	Nanchang Environment Protection Bureau (EPB)
Li Yujun	Director	Nanchang Environmental Engineering Evaluation Center
Fang Pingping	Manager	Medical Waste Treatment Center of Nanchang
Liang Peng		Medical Waste Treatment Center of Nanchang
Li Tuo		Medical Waste Treatment Center of Nanchang
Du Junyi		Medical Waste Treatment Center of Nanchang
Zhou Pingsheng		Interpreter
Hu Jie	Deputy Director-General	Ningbo EPB
Fan Ruoliang	Division Director	Ningbo EPB
Xu Mengxia	Ph.D	Ningbo EPB
Wen Yangbo	Director	Ningbo EPB
Xu Nengbin	Deputy Director	Ningbo EPB
Chen Mo		Ningbo EPB
Wang Peng		Ningbo EPB
Xia Ning		Ningbo EPB
Dai Zhongshui	Division Director	Ningbo EPB
Fang Hongfeng		Environmental Inspection Branch of Ningbo EPB
Shi Xiuya	Deputy Director	Publicity and Education Center of Ningbo
Lin Bin	Deputy Director	Solid Waste Management Center of Ningbo
Zha Ping	Director	Solid Waste Management Center of Shanghai
Zhong Shenghao	Deputy Director	Solid Waste Management Center of Shanghai
Wu Jian		Shanghai EPB
Tang Jian		Shanghai EPB
Dr. Zhang		Solid Waste Management Center of Shanghai
Mr. Lu		Solid Waste Management Center of Shanghai
Li Xiewei	Professor	Research Institute of BaoSteel
Yu Yongmei	Ph.D	Research Institute of BaoSteel
Chen Xizu	Director	Energy & Environmental Department of BaoSteel
Shen Xinfeng		Energy & Environmental Department of BaoSteel
Chen Xianyong		Technical Department of BaoSteel
Ye Jiajun		Stainsteel Plant of BaoSteel
Zhou Yijuan		Stainsteel Plant of BaoSteel
Gu Lijuan		Stainsteel Plant of BaoSteel
Yu Gang	Professor/NTA	Tsinghua University
Wu Changming		Tsinghua University
Dr. Tian		Tsinghua University
Dr. Sheng		Tsinghua University

Annex 4 - List of Substantial reports reviewed for SIRE project

Analysis on POPs related policy abroad
Analysis on POPs related policy in China
Analysis on POPs related industrial guidance in China
Report on development of risk control and chemical management of POPs
Minute on POPs policy workshop
Advice on updating NIP
Progress report on development of standards for implementation of Stockholm convention
Comparison of environmental standards in China and abroad for NIP implementation
Feedback from guidance consultation
Progress report on strategic co-financing
Assessment of monitoring capacity for unintentionally produced POPs
Mid-term and long-term plan for POPs monitoring
Training reports and materials for analysis of PCB and pesticide POPs
Training reports and materials for pre-treatment and analysis of dioxin samples
Report on coordination mechanism development
Progress reports for implementation of Stockholm Convention in China (CHN)
Annual dioxin symposium (2008,2009 & 2010)
Preliminary results of POPs technology transfer survey
Primary assessment of technologies for reduction and disposal of POPs
Process design and optimization for reduction and disposal of POPs in 2009
System design and operation on data collection and procession
Collection of information on chemicals in annex A&B
Log record for updating the website
Strengthening of NCG mechanism
Design for NIP implementation
Model and methodology for NIP evaluation
Assessment of NIP implementation (consultation)
Assessment on POPs related subject in advanced level education
Assessment on POPs related subject in preliminary & primary level education
Action plan for introducing POPs related subject in schools
Implementation of Stockholm Convention in Ningbo
Implementation of Stockholm Convention in Shanghai
Implementation of Stockholm Convention in Guangdong
Implementation of Stockholm Convention in Shanxi

Annex 5 - Photos during the mid-term evaluation



Visiting Guangdong Environmental Protection Bureau (EPB), Guangzhou, Jan 19, 2011



Progress reporting conference in local PIU- Guangdong EPB, Guangzhou, Jan 19, 2011



Visiting South China Institute of Environmental Science, Guangzhou, Jan 19, 2011



Visiting Guangzhou Institute of Geochemistry, Chinese Academy of Sciences, Guangzhou, Jan 19, 2011



Meeting in local PIU- Ningbo EPB, Ningbo, Jan 20, 2011



Progress reporting by Dr. Xu from Ningbo EPB, , Ningbo, Jan 20, 2011



Visiting Ningbo Dioxin Laboratory, Ningbo, Jan 20, 2011



Meeting in local PIU- Shanghai EPB, Shanghai, Jan 21, 2011



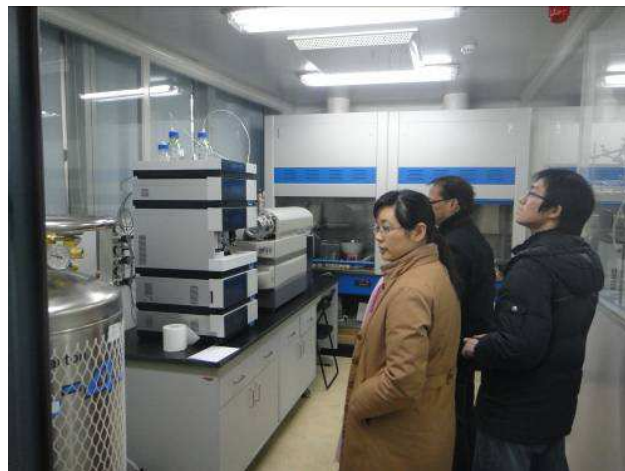
Meeting in BaoSteel, Shanghai, Jan 21, 2011



Visiting Dioxin Reduction Demonstration in iron sintering plant, Shanghai, Jan 21, 2011



Visiting SCR-Dioxin Reduction Testing Facilities in iron sintering plant, Jinan, Jan 24, 2011



Visiting Tsinghua Dioxin Laboratory, Beijing, Jan 26, 2011



Meeting in Tsinghua University, Beijing, Jan 26, 2011