**UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION**

**Project of the People's Republic of China**

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| **Project number:** | GF/CPR/07/X01 |
| **Project title:** | Strengthening Institutions, Regulations and Enforcement (SIRE) Capacities for Effective and Efficient Implementation of the National Implementation Plan (NIP) in China |
| **GEFSEC Project ID:** | 3263 |
| **Starting date:** | October 2007 |
| **Duration:** | 5 years |
| **Project site:** | China |
| **Government Co-ordinating agency:** | State Environmental Protection Administration, Government of China (SEPA) |
| **Counterpart: Executing Agency/ cooperating agency:** | SEPA/Foreign Economic Cooperation Office (FECO) |
| **Project Inputs:** | |
| ***GEF grant:*** | US$ 5,410,000 |
| ***UNIDO inputs:*** | US$ 200,000 |
| ***Support costs (10 %):*** | US$ 541,000 |
| ***Counterpart inputs:*** | US$ 9,825,000 |
| - MOF | *US$ 3,750,000* |
| - SEPA | *US$ 2,875,000* |
| - THU | *US$ 750,000* |
| - RCEES | *US$ 750,000* |
| - Italy | *US$ 1,500,000* |
| ***Grand Total:*** | **US$15,235,000** |


**Brief description**:

China signed the Stockholm Convention on Persistent Organic Pollutants (POPs) in May 2001 and the National People's Congress ratified the Convention in June 2004. The Convention entered into force in the country on 11 November 2004. The National Implementation Plan (NIP) of China has established a preliminary inventory of POPs chemicals, identified technical, regulatory and institutional barriers to Stockholm Convention implementation, and developed a series of national strategies and action plans through intensive consultations among national stakeholders and supported by international consultants. The NIP has already been endorsed by 13 relevant ministries, approved by the State Council and has been officially submitted to the Convention Secretariat on 18 April 2007, after which the final NIP document will serve as the overall guidelines for China in the implementation of the Convention.

In parallel to the NIP development, several thematic technical assistance projects are in different stages of planning and implementation that focuses on urgent reduction and elimination of intentionally produced POPs. These projects have initially focused on demonstration of alternative

technology development for reduction and phase-out of intentionally produced POPs, with necessary efforts directed towards sectoral policy formulation and institutional strengthening in the specific project areas. However, the effective and efficient implementation of the NIP requires the creation of an overall enabling environment by addressing a cross-cutting and overarching regulatory and institutional issues in a systematic manner. For this reason, the proposed Full-sized Project has been prepared, endorsed by China's Ministry of Finance and approved by the GEF Council in June 2007. The project will carry out cross-cutting activities in regulatory and institutional strengthening that will be implemented according to the NIP by 2010 and will form a solid foundation for the future implementation of NIP activities after 2010, which will not and cannot be effectively undertaken by any other thematic projects. Non-crosscutting legislation and institutional strengthening activities are still envisaged in other projects where they allow increased cost-effectiveness and efficiency.

The project design is coherent with the priority actions/activities set in the NIP as essential and indispensable prerequisites for the smooth implementation of the Stockholm Convention in China. Furthermore, as an in-depth capacity building project, it will create a regulatory and institutional enabling environment that will greatly facilitate the cost-effective implementation of technical assistance projects of all bilateral and multilateral agencies and sustain the results of these projects.

Project design is also consistent with China's 11th Five-Year Program (2006-2010), which will constitute the project baseline for project reviews and linkages with national development plans. Guidelines under the 11th Five-Year Program establish targets for "boosting the optimisation 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 Convention implementation. The Five-Year Program will also allow provision of strong support to the project by central and local government agencies and other stakeholders.

**Approved:**

| | **Signature:** | **Date:** | **Name and title:** |
|---|---|---|---|
| ***On behalf of*** | | | |
| **The Government of the People's Republic of China:** | _____ | _____ | _____ |
| **On behalf of UNIDO:** | _____ | _____ | _____ |

## TABLE OF CONTENTS

## LIST OF ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| BAT | Best available technology |
| BEP | Best environmental practices |
| BOT | Build-operate-transfer |
| CBOs | Community based organizations |
| CDC | Centre for Disease Control and Prevention |
| CIO | Convention Implementation Office |
| COP | Conference of Parties |
| DDT | dichloro-diphenyl-trichloroethane |
| EIA | Environmental impact assessment |
| ERA | Environmental risk assessment |
| FAO | Food Agriculture Organization |
| FECO | Foreign Economic Cooperation Office |
| GEF | Global Environment Facility |
| LCIU | Local convention implementation unit |
| MIS | Management Information System |
| MOE | Ministry of Education |
| MOF | Ministry of Finance |
| MOH | Ministry of Health |
| MOST | Ministry of Science and Technology |
| MOU | Memorandum of Understanding |
| NCG | National Coordination Group |
| NDRC | National Development and Reform Commission |
| NEA | National Executing Agency |
| NGO | Non-governmental organization |
| NIP | National Implementation Plan |
| NPM | National Project Manager |
| NSFC | Natural Science Foundation Committee |
| OP | Operational Program |
| PCB | Polychlorinated biphenyls |
| PCDD/PCDF | Polychlorinated dibenzo-p-dioxins and dibenzofurans |
| PIP | Provincial implementation plan |
| PIRs | Project Implementation Reviews |
| PMO | Project Management Office |
| POPs | Persistent Organic Pollutants |
| R&D | Research and Development |
| RCEES-CAS | Research Centre for Eco-Environmental Sciences, Chinese Academy of Sciences |
| SC | Stockholm Convention |
| SEPA | State Environmental Protection Administration |
| SIRE | Strengthening Institutions, Regulations and Enforcement |
| TCG | Technical Coordination Group |
| THU | Tsinghua University |
| TTPC | Technology Transfer Promotion Centre |
| UN | United Nations |
| UNDP | United Nations Development Program |
| UNEP | United Nations Environment Program |
| UNIDO | United Nations Industrial Development Organization |
| UP-POPs | Unintentionally produced persistent organic pollutants |

## SECTION A. CONTEXT

1. The Chinese government attaches great importance to environmental protection. Since 1980s, China has established environmental protection as a basic national policy and sustainable development as a key strategy and has pursued a "road of a new type of industrialization." While promoting economic growth, China has adopted an array of measures to strengthen environmental protection. Particularly in recent years, the Chinese government has focused on preventive approaches and comprehensive pollution control. Breakthroughs have occurred and government officials at all levels have worked hard to solve conspicuous environmental problems that threaten the public health.

2. China stresses international cooperation on environmental protection and is active in conducting cooperative activities with the United Nations (UN) and other international organizations. China has acceded to over 50 international environmental protection conventions, and has been active in performing the obligations stipulated in these Conventions, including the Stockholm Convention on Persistent Organic Pollutants (POPs).

3. However, as the most populous and largest developing country in the world, China's high rate of economic development has led to serious environmental problems with significant local and global environmental impacts. The conflict between environmental protection and economic growth is becoming more prominent than ever, particularly given the increasing number and importance of global environmental conventions that China has agreed to. Resource shortages, a fragile ecological environment and insufficient environmental loading capacity are becoming critical problems hindering China's sustainable development.

### A.1 THE STOCKHOLM CONVENTION AND CHINA

***The Convention***

4. Persistent organic pollutants possess toxic properties, resist degradation, bioaccumulate and are transported, through air, water and migratory species, across international boundaries and deposited far from their place of release, where they accumulate in terrestrial and aquatic ecosystems. With years of emissions before their environmental risk became known, POPs have already become an international environmental problem that human kind must face.

5. In May 2001, the Stockholm Convention on POPs was adopted with the aim of protecting human health and the environment from POPs. The Convention entered into force on 17 May 2004. Two Conferences of Parties (COP1 and 2) have been convened to specify detailed requirements and procedures for the implementation of the Convention.

6. The GEF has been selected as the Convention's financial mechanism. In October 2002, the GEF Assembly approved the addition of POPs as a new GEF focal area, and in November 2003, the GEF Council approved the GEF Operational Program on POPs – OP#14.

***Overview***

7. 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 the 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.

8. Initial working mechanism at central government level established: A National Coordination Group (NCG) has been established, bringing the vice minister of the State Environmental Protection Administration (SEPA) to act as the group leader and director-generals of the 10 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 SEPA and respective ministries, including the Ministry of Construction, State Electricity Regulatory Commission, Ministry of Agriculture, etc.

9. The NIP has been successfully developed: Comprehensive inventories have been conducted to understand the status of POPs production, distribution, use, import, export, emissions, stockpiles, contaminated sites and waste. Sectors and key enterprises with significant potential for dioxin release have been identified, and a dioxin release inventory has been developed based on the UNEP Toolkit. The current institutional settings, policies and regulations and technologies for POPs treatment, disposal and substitution have been reviewed and evaluated. Objectives, strategies and action plans to control, reduce and eliminate POPs have been formulated, along with indicators for effective evaluation. Addressing capacity building as one of the most fundamental activities, US$275,900 was approved by the GEF for use during NIP development to structure a Capacity Building Project to be implemented in conjunction with and support of the NIP.

10. Active responses to Convention requirements already underway: In conjunction with the development of China's 11th Five Year Program (2006-2010), pollution control standards and environmental quality and technical guidelines related to POPs have been identified for revision or establishment during the coming five years. Subject to reduction or elimination according to the Convention's requirements, products containing POPs and manufacturing processes producing POPs have been included in the Guiding Catalogue of Industrial Structure Adjustment. All of these have effectively pushed forward the process in order to implement the Stockholm Convention.

11. Campaigns to raise public awareness of POPs launched in various forms: Following the two significant dates on which the Convention was signed (May 23, 2001) and entered into force (November 11, 2004) and the implementation of demonstration projects, extensive publicity and awareness raising activities have been carried out through press conferences, planetary reports, 3-D media, questionnaires, and thematic workshops to promote the creation of a sound social environment for the implementation of the Convention.

12. China's successful initiation of several thematic projects to take measures for POPs reduction and elimination under the financing mechanism of the Stockholm Convention: The implementation of these projects will lay a solid foundation for China to fully and smoothly fulfil its obligations under the Convention. Further details of these thematic projects were given in para 21 (Thematic investment projects).

***The National Implementation Plan***

*Development process*

13. The development of the National Implementation Plan (NIP) in China has been implemented by the Foreign Economic Cooperation Office (FECO) of SEPA under a letter of agreement with UNIDO. 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 will thereafter serve as overall guidance for implementing the Stockholm Convention.

14. In order to guide the development of the NIP, China established a coordinating group led by SEPA 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 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.

15. The development of the NIP was based on the valuable support and active participation of the international and domestic institutions and organizations, and in extensive consultations with international and domestic stakeholders. For soliciting the comments on the NIP's framework, information and data, five meetings of the Technical Coordination Group (TCG) were organized involving a wide range of international and domestic stakeholders, including related ministries, local governments, relevant industries, enterprises, NGOs, professionals, the public, UNIDO, UNDP, UNEP, FAO, GEF, the World Bank, and the Governments of Canada, Germany, Italy, Japan, Norway and the United States. A series of thematic workshops targeting specific industries and geographical regions were held to understand the management status of industries and local governments, identify their needs for Convention implementation, and explore action plans and strategies that can both meet Convention requirements and promote industrial and local development.

16. The NIP strictly follows the Interim Guidance for Developing a National Implementation Plan for the Stockholm Convention and the requirements of the Convention's NIP-related articles. Based on extensive investigations and consultations, the NIP has developed a series of activities, strategies and action plans to be carried out through 2015 for China to implement the Stockholm Convention.

*Main contents of the National Implementation Plan*

17. 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.

18. 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). Initial priority areas include:

- Constitute and improve the policies and regulations required and reinforce the constitutional basis for the implementation of the Convention;
- Eliminate production and use of chlordane, mirex and DDT;
- Confirm inventory for unintentionally generated POPs releases emissions and the list of equipment containing PCBs and wastes containing POPs;
- Drastically reduce or eliminate exposures from identified high-risk power equipment in service which contains PCBs;
- Adopt BAT/BEP to control dioxin releases for key dioxin emitting industries;
- Realize environmentally sound management of wastes containing dioxin in the waste incineration industry;
- Establish financial mechanisms to ensure implementation of each action plan;
- Conduct project demonstrations and extensive replication;
- Develop and enhance capacity building in support of Convention implementation; and
- Establish a long-term mechanism to control POPs releases emissions.

*Identified capacity building needs*

19. During the preparation of the NIP, analysis on gaps between the Convention requirements and the present situation has been made. This gap analysis has shown that in order to meet Convention requirements, there is a need for strengthened capacity in a range of areas namely:

- institutional capacity in technical support institutions;
- legislation, regulation, implementation and enforcement capacities;
- research, development and dissemination of technical capability for alternative technologies;
- supervision and management of labelling, transportation, storage and disposal of in-use power PCBs-containing equipment;
- supervision and management in identification, labelling, transportation, storage and disposal of end-of-life power equipment containing PCBs;
- supervision and management of POPs specific exemptions and acceptable purposes;
- capacities in reducing unintentionally produced chemicals release;
- capacities in POPs stockpiles and wastes identification, management and disposal;
- capacities in identifying and remediating contaminated sites;
- administration capacities of local governments;
- capacities in information exchange, public information, awareness raising and education; and
- capacity for effective evaluation and compilation of Convention implementation report.

20. All NIP priorities for capacity building have taken into consideration the time constraints and resources during the period of 2007 to 2010. Specific priorities during 2011-2015 will be determined based on the evaluation of results and impacts from initial implementation of the NIP.

*Thematic investment projects*

21. In order to address the requirements of the Stockholm Convention, China has prepared and implemented several thematic projects to reduce or eliminate chemicals included in Annex A and B of the Convention. The capacity building components within the thematic projects generally include legislation, institutional strengthening, monitoring and information and public awareness and education in the sectors covered. The projects that were initiated are described below.

1. *PCBs Management and Disposal Demonstration Project*: The project aims to identify and demonstrate environmentally sound and cost-effective policies, procedures and techniques for safe management and disposal of China's uniquely temporarily stored PCBs and associated PCB-contaminated wastes. The project started in July 2005 with a 4-year duration. A national replication program will be developed upon its completion in 2010. The implementation of this project contributes to achieve the following objectives of the NIP: (i) complete the environmentally sound disposal of high-risk in-service electrical equipment containing PCBs identified in the demonstration areas by 2010; and (ii) environmentally sound management and disposal of high-risk PCBs wastes in the demonstration areas by 2010.

2. *Demonstration of Alternatives to Chlordane and Mirex in Termite Control Project*: The objective of this project is to demonstrate the elimination of chlordane and mirex use for termite control in the demonstration provinces through introduction of integrated pesticide management (IPM). The project started in January 2006 with 4 years duration. A national replication program for IPM will start in 2009, in which time the production of chlordane and mirex will be stopped. The implementation of this project supports to achieve the following objectives of the NIP: (i) primarily stop the production and use of chlordane; and (ii) primarily complete environmentally sound management and disposal of identified pesticide POPs wastes nationwide.

3. *Alternatives to DDT Usage in the Production of Antifouling Paint:* The binding objective of this project is to eliminate 250 MT DDT per year used in the production of DDT based antifouling paints by shifting to technically feasible, economically viable and environmentally friendly alternatives. The project also sets a prospective objective, which is to establish a long-term mechanism to protect marine environment from pollution of harmful antifouling systems in support of China's signing of the International Convention on the Control of Harmful Anti-fouling Systems on Ships based on the technologies, experience and instruments obtained from the phase out of DDT antifouling paint. The project is estimated to start in August 2007 with a timeframe of 4 years. Its implementation is aimed to completely phase out the use of DDT in the production of antifouling paint.

*A complete snapshot of the capacity needs*

22. The priority areas for capacity building during the period of 2010-2015 and beyond will be specifically determined based on the overall performance assessment of the results of all the Convention implementation activities. Basically, the magnitude of the capacity building can be qualitatively pictured as indicated in Figure 1.

23. Figure 1 gives schematic indication of the development of capacity building until it reaches a sustainable stage. Monitoring and central level activities such as legislation, institutional strengthening and public awareness are important initial activities. Gradually there will be a dominance of technical capacity building for the practical management of the production facilities, stockpiles and waste. Also, the capacity building will be replicated at provincial and other local levels.

24. The total volume will initially be dominated by cross-cutting activities for which the funding is controlled by the government. In the intermediate stage much more funding for capacity building is expected to come from both the government and industry as required by legislation promulgated during the first phase. In the sustainable stage, it is expected that less funding would be needed for legislation, institutional strengthening and public awareness, but the funding for technology transfer will go up with more tangible actions to be taken to reduce the release of unintentionally produced POPs.

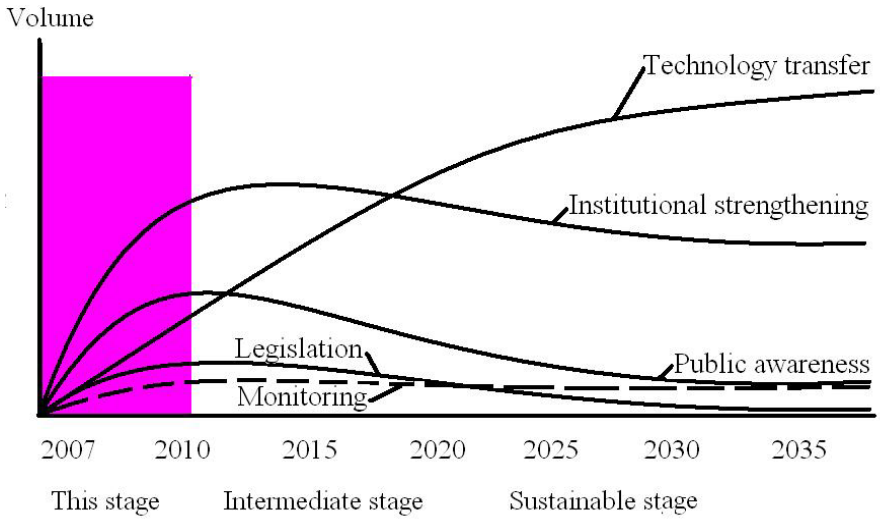



Fig. 1: Qualitative indication of the volume of resources spent on capacity building over time

## A.2 BARRIERS TO THE ENHANCEMENT OF CAPACITY FOR EFFECTIVE AND EFFICIENT IMPLEMENTATION OF THE NIP

***Lack of an enabling policy and regulatory environment***

25. The NIP has identified the existing policy and regulations regarding the production, use, import and export, environmental monitoring and ingestible standards for pesticide POPs, PCBs, DDT, UP-POPs, stockpiles, wastes and contaminated sites. Findings show that there are no specific policies or regulations regarding POPs management. Instead, stipulations related to POPs management are dispersed throughout different laws and regulations that are hard to coordinate where some current regulations are impracticable. These regulations generally contain overlaps and gaps and would benefit from increased incentive-based measures to promote self-regulation and a monitoring rather than an enforcement role for local officials. At local levels, where capacity is weak, regulations are poorly understood, inconsistently applied and subject to varying interpretations.

26. The proposed project will promote the preparation and development of a comprehensive law so that important constituent and legislative elements for POPs reduction and elimination could be integrated together. A parallel approach would be conducted. While text of regulation will be drafted and prepared at the central government level, the local legislation at several focal pilot provinces, as a support to central level legislation preparation, will also be conducted and tried against local context. Successful experiences in these provinces, in particular the experiences in monitoring and incentives will be disseminated nationwide and used as a valuable reference in the preparation of the national level legislation.

***Financial barriers to the implementation of the NIP***

27. According to the NIP, China's total cost for Convention implementation is estimated at US$ 4.3 billion. Given the magnitude of this sum, no single financial source can fill China's Stockholm Convention compliance needs. As the Convention's financial mechanism, the GEF is the most stable and significant financial source for POPs issues, but it has earmarked only US$ 282 million for GEF4 (2007-2010), which is far from sufficient to fully support China's NIP implementation, let alone the rest of the world.

28. According to the 11$^{th}$ Five Year Program for National Economy and Social Development, China will need about US$ 162,500 million for environmental protection. However, POPs issues have not been directly addressed in the Program.

29. With the development of market economy, China has established diverse pattern of investment and financing channels for environmental protection. Yet, most of them are not dedicated to POPs issues.

30. On the other hand, as China is in transition from a planned economy to market economy, there are a wide variety of constraints for the NIP implementation to have access to domestic financial resources. They are in general related to a poor understanding for any POPs related environmental protection undertakings, which include low profit-making or financial significance, long payback periods, high risk and uncertainty, high transaction cost and weak capacity to access to adequate information. For example, the BOT financial instrument that is quite mature in developed countries is still at an emerging stage due to low awareness, knowledge and skills.

31. In addition, there are market, technology and policy barriers as well that could also hinder their access to financial resources.

32. As mitigating the enormous gap and finding out ways to overcome the barriers mentioned above is of vital importance, there is a compelling need to study enabling environment, for instance, the financing mechanism, feasible and operational models, as well as opportunities for public and private investment. To this end, the project has designed activities to explore the likelihood of co-financing and test their feasibility and applicability in a pilot city.

***Weak monitoring capacity for POPs***

33. Monitoring is a process involving sampling and analysis. With regard to the sampling infrastructure, few enterprises are equipped with emission sampling facilities and there is, at present, little or no sampling capacity amongst China's environmental monitoring stations.

34. However, with regard to the analysis infrastructure, China has established a nationwide environmental monitoring system consisting of 40 stations at the national or provincial level, 399 stations at the municipal level, and 1850 stations at county level. Most of the equipment and instruments in this monitoring system and networks meet only the requirements for the analysis of organochlorine pesticides (OCPs) and polychlorinated biphenyls (PCBs).

35. China has also established 13 dioxin analysis laboratories with a total of about 7,239 samples tested from 2002 to 2004. In addition, seven regional laboratories of dioxin analysis are under construction. Although the research laboratories, affiliated to the Chinese Academy of Sciences or to major universities, have recently received investment from the Government of China in order to equip themselves to undertake analysis of dioxins and furans, none of them is yet accredited to an international scheme and it is unlikely that they would have the capacity to undertake a major analytical programme in support of systematic and routine monitoring without major additional investment.

36. In addition, the limited research undertaken on dioxins and furans to date in China (about 7,239 samples in total) has been principally geared to determine their prevalence in certain limited and specific sites of environmental interest. A wide range of supportive sources has financed this analytical work. There is, however, no systematic monitoring of releases from anthropogenic sources.

37. The monitoring cost for one sample is now about $1000 (excluding sample collection cost) in China that cannot be afforded by the emission producers. The high cost is to a great extent attributed to the high cost of reference standards imported from abroad and the lack of national reference materials.

38. Lastly, the current monitoring for POPs is hampered by lack of qualified human resources and standardized management in existing dioxin analysis laboratories. Building up capacity in (i) standard operating procedures (SOPs) including extracting POPs from various samples (e.g. wastes, environmental media, human tissue, food and feed, etc.); and (ii) national laboratory accreditation system to assure the quality of POPs analysis and formulation of important regulations/standards for routine monitoring of POPs.

39. In addition to the monitoring activities (sampling and analysis), focus on PCDD/PCDF monitoring of other pollutant emissions has of high relevance to the sustainability of this project. For example the monitoring of particulates in stack emissions is within the obvious limitations of a good surrogate for PCDD/PCDF. As particulates such as fly ash absorb very high proportions of PCDD/PCDF from the flue gases, any reduction in particulates will result in the reduction of PCDD/PCDF. Hence general emission control and monitoring can give important information on the amounts of PCDD/PCDF emission releases even in cases where more expensive specific analysis could not be affordable or feasible.

40. The significant capacity building requirements at national and provincial levels in China can neither be met solely from the financial resources likely to be available during the full project, nor can be delivered during the limited duration of the project. For these reasons, the project at its first stage of NIP implementation will only address the last barrier to monitoring and meanwhile focus on barrier removal activities of improving human resources and standardized management so that the existing basic national monitoring facilities can properly perform its preliminary monitoring function.

41. Activities for removing other barriers mentioned above will be addressed in more details as recommendations and suggestions for capacity building program proposal to be developed in parallel with the implementation and as an output of the proposed project.

***Barriers to Research and Development (R&D)***

42. The coordination and cooperation among stakeholders for R&D is weak and the practical impact of R&D is poor. Although with China's ratification of the Convention, the relevant Chinese governmental departments, including MOST, Natural Science Foundation Committee (NSFC) and MOE, have come to realize the importance of providing support to R&D on POPs and some key research programme/projects. Most of these existing researches have not covered many key issues directly associated with the implementation of the Stockholm Convention (SC), such as technologies for UP-POPs release reduction and control and monitoring techniques, other technologies for using pesticide alternatives, destruction and disposal of PCBs and other POPs wastes and remediation/rehabilitation of contaminated sites. In addition, these studies are often financed by different funding ministries and departments without consultation, coordination and cooperation among key stakeholders. Lastly, the capacity to transfer the research results from research domain to application domain is poor and there are always complaints that the researches are often academic and of little practical use.

43. To address the barriers mentioned above, the project has designed activities to enhance the communication mechanism among ministries and main funding sources, to formulate policies that supports application of research results, to trace the progresses of R&D activities relevant to POPs, to promote the communication among researchers at home and abroad and to strengthen the linkages among research bodies, enterprises and the government. These activities will be conducted in line with the priorities identified in the NIP, which are as follows:

1. Formation mechanism and release features of POPs from local sources;
2. Model and application system of environmental risk assessment (ERA) and health risk assessment (HRA) for POPs and related materials/wastes/environmental phases;
3. Screening techniques and related products for POPs contamination;
4. Test methods for POPs in various media and monitoring techniques for the release of POPs from key sources;
5. Localization of instruments, equipment, chemical standards, reagents and standard reference materials for POPs analysis in China;
6. Alternative technologies or alternatives to POPs in specific fields;
7. BAT/BEP measures to reduce the release of dioxins from key sources;
8. Safe disposal technologies for POPs and POPs containing materials/wastes;
9. Sound remediation solutions for POPs contaminated sites, involving the remediation of soil, groundwater, etc.; and
10. Basic research on potential new POPs.

***Barrier to the technology transfer***

44. Despite considerable investment and improvement in technology, there remains a large gap between the performances of industry in China with that of the developed world. This is particularly evident in pollution control technology and equipment. Some advances have been made in recent years to control air pollution emissions from large- and medium-scale enterprises and these may also have served to reduce emission of unintentionally produced POPs. However, a feature of many industrial sectors in China is the prevalence of relatively small-scale enterprises, where the efficiency of energy and material utilization are not only much lower than that of OECD countries but also lower than that of many developing countries (India for example).

45. Although the government has realized the importance of restructuring economy towards more efficiency, less material consumption and more environmental and ecological protection, and is actively pursuing the policies towards economic restructuring, cleaner production and circular economy, few policy makers and professionals are familiar with legislation and regulations and technological policies which resulted in substantial investments in other countries such as Denmark, Germany, India, the Netherlands, U.K. and U.S.A., let alone with the simultaneous integration of the Stockholm Convention requirements.

46. Barrier also exists in mainstreaming the BAT and BEP requirements in current technology application. The application of BAT and BET, which is prevalence in other countries, is seldom seen in China. On the contrary, cases can be found where practices and technology use in China are inconsistent with BAT and BEP requirements. For example, in medical waste disposal sector, the prevalent technology use is incineration, rather than the non-combustion technologies that have been widely applied in many countries.

47. The capacity for commercialization of BAT and BEP is poor due to the poor linkages among researchers, entrepreneurs and government officials. BAT is just at the beginning stage of commercialization in the Chinese market. Research institutes, while providing highly competent researchers, are not equipped for the production and marketing function. Entrepreneurs do not have easy access to the information of BAT and BEP. Government professionals familiar with the state of the art in several BATs have no more than a passing familiarity with market finance, commercial enterprise operation and economic project appraisal.

48. To address the barrier for NIP implementation, the project has designed activities under Outcome 5 (i) to bridge the linkages among government, enterprises and industrial associations, (ii) to build up the platform for information exchange between technology owners and users, (iii) to provide the enterprise with technical assistances to phase in BAT/BEP application and facilitate access to technology users to cost effective pesticide alternatives and PCB and waste disposal technologies; (iv) to promote with other countries the regional and global cooperation on technology transfer .

***Unavailability of and limited access to information***

49. The concepts of POPs reduction and control are still relatively new to China. Basic information regarding their properties, harms and impacts are still unavailable and needs to be transferred from the developed countries to China. The existing information is largely stored in the academia and in government departments independently and needs to be transformed into reader-friendly database that they can be well disseminated and welcomed among the public. The various platforms and channels to produce and distribute environmental awareness raising materials for POPs should be integrated through partnerships.

***Weak institutional capacity for planning, guiding and enforcement for the Convention compliance***

50. Firstly, the national Convention implementation structure has insufficient capacity for comprehensive coordination, decision making support, organization and execution and monitoring and supervision. The National Coordination Group (NCG) is not well supported for scientific decision making. Decisions are often made hastily, without a well-conducted consultation with relevant experts from technology, economy, environment and sociology disciplines as well as with a broad range of stakeholders and a neglect of a deep social survey in advance. The CIO, a pivot of the Convention implementation in China, is extremely understaffed, with only 3 regular staff and a few short-term contracted staff, whose capacity is too small to effectively accomplish its mission and needs to be strengthened.

51. Secondly, barriers exist in capacity weakness in mainstreaming the requirements of the Convention compliance into current environmental management instruments. As far as the current environmental management instruments are concerned, aspects of particular interest will be:

- the existing environmental impact assessment (EIA) that might be important in investment planning to prevent the establishment of new sources of unintentional production of POPs;
- the registration system for pollutant discharges;
- the total emission control system;
- the pollution levies system and non-compliance fines;

- the voluntary clean production programme as a vehicle for the progressive migration of industry to BAT/BEP; and
- the Law of Solid Waste pollution prevention and control and its associated listing of hazardous wastes.

52. Although the role of these current practices have not been brought into full action and their real impact are often questioned mainly due to their inherent defects, which are often associated with systematic institutional changes that can not be completed in a short period of time, the integration of the requirements of the Stockholm Convention into the current practices will certainly create a concerted efforts in achieving national and global benefits and will also allow funds currently being invested to achieve local environmental benefits and thus achieve greater global environmental benefits simultaneously at an economic cost. To this point, the relevant stakeholders, in particular the government agencies at central and local level with different institutional mandates and responsibilities have to cooperate to eliminate the associated barriers in coordination, organization and enforcement due to limited resources, information, knowledge, personnel and finance.

53. Thirdly, local governments are the major bodies for NIP implementation but their implementation capacities are the weakest. The environmental protection departments and other related departments at various local levels have not yet incorporated POPs into their routine agenda for monitoring and enforcement. So far, there has been a lack of approach and operational practices to devolve responsibilities for the Convention compliance to local government levels and to encourage the respective local community participation. Measures have to be taken to ensure the establishment of linkages between the Convention requirements and local economic, environmental and social development programs. With the related regulations, standards, guidelines, procedures and mechanisms to be established for POPs management, their institutional capacity for monitoring and enforcement on POPs issues needs a lot of improvement to meet the requirements of the Convention implementation.

54. Lastly, there is a lack of incentives for enterprises to take measures to comply with the Convention compliance. Enterprises are the main entities that bear the obligations of the Convention. Their reaction and attitudes towards the POPs related policies directly affect the outcome of the implementation of the NIP. So far, many polluting enterprises are inefficient and can neither afford end-of-pipe treatment nor take up precautionary measures within-process changes. Most industrial firms do not acknowledge the fact that violating environmental laws and standards represents an offense. There are also perverse incentives for enterprises to take measures against pollution. Economic instruments are relatively under-developed and most of them are either only at the trial stage or generate adverse consequences through pricing distortion. For example, the system of pollution levies and non-compliance fines has been of limited impact as these levies and fines are set very low and enterprises opt simply to pay the fees rather than invest in pollution prevention and reduction facilities. The introduction of planned improvements to the system is hampered by the current weak monitoring capacity and public sensitivity to price adjustment, especially when the unemployment rate is rising in many areas.

55. Overcoming these barriers and integrating the requirements of the Convention will require considerable capacities at both national and provincial levels within the government, industry and a variety of key stakeholder communities.

56. As a first step to overcome the barriers mentioned above, the project has designed several activities as mentioned and grouped under Outcome 6. The intention is to (i) establish an expert consultation board to support the important decision making at top levels; (ii) enhance the implementation of NIP by devolving responsibilities to provincial government through developing provincial implementation plan (PIP) at focal provinces; (iii) promote, through planning, training and organization at central and provincial levels, the application of current available environmental protection instruments to meet the several obligations that are mentioned with deadlines in the Convention; and (iv) demonstrate enterprise self-discipline practices through encouraging voluntary elimination and reduction of POPs and establish respective incentive measures.

***Lack of capacity for a continuous improvement of NIP implementation management***

57. Constrained by resources, knowledge and information, NIP implementation is a process full of uncertainties. It is also a process of continuously providing feedback to enable the lessons and experiences to be incorporated into further improvements in the NIP implementation. To this end, evaluation needs has to be set up in order to obtain awareness of the impact of on-going activities and to get an insight of economic, environmental and social values after the completion of any plan/s or programme/s.

58. Due to the importance of evaluation, the Convention has requested parties of conference to assess the effectiveness of Convention compliance four years after the date of entry came into force and periodically thereafter at intervals to be decided by the Conference of Parties. .

59. However, the evaluation, in particular the ongoing and post-evaluation, is the weakest link in China's policy process. As plans, programmes and policies are seldom subject to the ongoing and post evaluation, the relevant administrative costs are always high and policy failures in enforcement cannot be altered in time. For example, the wide spread incineration of medical waste results in the increase in dioxin emission. However, such practice is not easy to change due to the inherent rigid decision making process that can not be adapted to the changing environment.

60. The project has designed activities under Output 8 to address the barrier. These activities mainly aim at building up evaluation institution to meet the requirements of the Convention and the continuous improvement in the NIP implementation.

***Low awareness of POPs***

61. During the NIP development, the stakeholders in various sectors and levels have been mobilized to participate in numerous training and consultation workshops. Their awareness of POPs issues, particularly at the national level, has improved significantly. However, due to the limited time and resources allocated to awareness promotion campaign, awareness is still insufficient, particularly at the local levels where economic development is generally seen as of greater importance rather than environmental protection. The decision and lawmakers may be reluctant to mainstream POPs issues into the general policy and legislative framework and put them on their agenda as a priority. The enterprises have not been fully motivated to take measures on POPs. The public has little exposure to information on POPs and is far from being reactive to POPs concerns.

## A.3 DOMESTIC, REGIONAL AND GLOBAL BENEFITS

62. China is the largest developing country in the world with a population of 1,375 million in 2005. It is experiencing a rapid industrialization and is in the development of market economy. These factors represent significant challenges on efforts to protect the human health and the environment within China. Enabling China to comply with the obligations on Parties set out in the Convention will have a significant and positive influence not only on China's own chemicals management regime but also on the ultimate global success of the Convention to protect human health and the environment from the threat of POPs. Successful efforts moving towards compliance will also serve as a model for other developing countries.

63. While the proposed capacity building project does not intend to directly reduce or eliminate any POPs, it will lay down the solid foundation for the fulfilment of China's commitments to the Convention.

64. 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.

65. 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.

## A.4 SPECIAL FEATURES

***Highly prioritized in NIP***

66. China is under great pressure and in great need of capacity building to fulfil the objectives of the NIP. There are many objectives to be accomplished before 2010. For instance, the registrations of specific exemptions of DDT as intermediate in the production of dicofol, chlordane, mirex and HCB as intermediate in production of Na-PCP, will expire by 2009. BATs for new sources in the categories listed in Part II of that Annex C shall be phased in as soon as practicable before 2008. China shall submit its first report by 31 December 2006 and submit the subsequent report every four years thereafter. Among the total of 106 actions of the NIP, the proposed project will address more than half of them from a capacity building point of view, leaving the other part, which is non-cross cutting and focus on specific themes to be carried out by thematic investment projects. Only with such arrangements can China be endowed with the capacity to meet the requirements of the Convention and the NIP.

***Free-standing as an enabling activity project for cross-cutting capacity building***

67. Capacity building is one of the most important activities in the thematic investment projects. However, with the development of the NIP, it is recognized that the thematic investment projects alone cannot provide all the required capacity for effective and efficient implementation of the NIP. In fact, many essential cross-cutting capacity building activities will be left unaddressed without the project. The systematic, institutional and individual capacities, which are crucial and yet not dealt with, are highly prioritized and need to be strengthened. Therefore, the project is proposed as a stand-alone project focusing on a holistic way of nationwide capacity building with the outputs of the on-going capacity building activities inherently complemented to this project.

***Cross-cutting***

68. This project targets at cross-cutting capacity building activities identified from the NIP. The cross-cutting capacities include but are not limited to national policy, legal and regulatory framework, financial resources and technology transfer, incentive systems and market instruments, monitoring and observation, institutional mandates, management and performance, co-ordination and processes for interaction and co-operation between all stakeholders, networking with regions, mobilisation of science in support of decision-making, information management, negotiation, awareness and exchange of information, and individual skills and motivation.

***Synergies with on-going and future thematic investment projects***

69. Though the thematic capacity building elements identified in the NIP will be excluded from this proposed project, the project will create an enabling macro environment, which will greatly

facilitate the high-quality implementation of the thematic investment projects. The project is highly cost-effective in the sense that it will provide essential capacity on which thematic investment project can be build upon.

***Civil society involvement and stakeholder participation***

70. The most concerned ministries and intergovernmental organisations have already been strongly involved during the development of the NIP and preparation of the Project Brief. A broad partnership has been established with the members from the ministries and administrations of the National Coordination Group (NCG) of China, relevant international organizations including UNIDO, UNDP, UNEP, UNITAR, the World Bank, the bilateral governmental agencies from Germany, Italy, Japan, Norway, USA and others, relevant industrial associations, representative enterprises, interested institutes and universities together with other members of the donor community and development partners. In addition to funding support, the members of the partnership also provided assistance in reviewing and commenting upon project outputs, guiding NIP development at the macro-level and in disseminating project findings and outputs. It is intended that this partnership will continue and be extended in order to facilitate engagement with appropriate actors at key stages.

71. The capacity building programme will at an early stage contain activities directed to addressing awareness raising, information and participation for an audience of all planning teams. This will help identify other concerned stakeholders representing the private sector, academia, workers and public interest for the respective activities that should be invited to participate in their implementation. Provinces and local administrations will mainly be represented in the legislative capacity building and the specific demonstration activities in selected provinces.

72. The responsibilities of other stakeholders will have to be delineated case by case during the above-mentioned activities on awareness promotion, information and participation. The table below gives an initial list of stakeholders and their means of involvement and participation to the proposed project.

**Table 1: Involvement and participation of stakeholders**

| Output | Stakeholders | Means of involvement and participation |
|---|---|---|
| Output 1: Policy and regulatory framework | Relevant ministries in NCG, local government departments, industrial associations, enterprises and public | Law making and participation in seminars and hearing |
| Output 2: Mechanisms and tools for financing | SEPA, NDRC, MOF, local government departments, industrial associations, enterprises, investment banks, international organizations and potential cooperation countries. | Participation in thematic seminars |
| Output 3: Environmental monitoring (Knowledge basis) | SEPA, MOH, local government departments, monitoring stations or laboratories, enterprises and international authorized laboratories | Participation in training workshops and monitoring activities |
| Output 4: Research and Development (knowledge basis) | SEPA, MOST, NSFC, MOE, research institutions, industrial associations, enterprises, international research organizations | Participation in seminars or forums, and undertaking subcontracts |
| Output 5: Technology transfer (Knowledge basis) | SEPA, TTPC, CIO, industrial associations, enterprises, consultant agencies and international technology transfer organizations | Undertaking subcontracts, participation in training workshops and seminars. |

| Output | Stakeholders | Means of involvement and participation |
|---|---|---|
| Output 6: Institutional strengthening for decision making and legislation enforcement | NCG, CIO, local government departments, national advisory committee, enforcement and inspections departments, enterprises, NGOs and public | Participation in coordination and decision-making meetings, undertaking subcontracts, participation in campaigns of enforcement and inspections and lawsuit activities |
| Output 7: Data collection, processing and reporting | Relevant ministries in NCG, CIO, POPs information centre, local government departments, consultant agencies, industrial associations, enterprises and international organizations | Undertaking subcontracts and participation in training workshops |
| Output 8: Evaluations and follow-up | Relevant ministries in NCG, CIO, consultant agencies, industrial associations, enterprises and international organizations | Participation in training workshops and undertaking subcontracts |
| Output 9: Public awareness | CIO, consultant agencies, media, community based organizations, NGOs and public | Undertaking subcontracts and participation in public awareness raising activities |
| Output 10: Education | CIO, MOE, universities, colleges, research institutes, schools and POPs management related officers | Undertaking subcontracts and participation in seminars and education activities |
| Output 11: Project management, monitoring and evaluation | CIO, PMO, experts hired and contractors, the members of TCG | CIO and PMO will manage and supervise the implementation of the project;<br>Experts hired and contractors will undertake their contracts<br>Members of TCG will provide inputs by participating in the TCG meetings |

***Country driven and consistent with national development programmes***

73. The project design is consistent with China's 11th Five Year Programme (2006-2010). Taking this opportunity, the implementation of the Five Year Programme will provide strong support to this project from the related central and local governments and other stakeholders, and constitute the baseline of the project. For instance, Guidelines of the 11th Five Year Program sets the targets for "boosting the optimisation and upgrade of industrial structure", "building up a resource-efficient and environmentally friendly society", and "promoting recycling economy". Wise exploitation of potential synergies with these national development programs can considerably facilitate the Convention implementation.

***Advanced programmes demonstrated in selected provinces***

74. The advanced programmes for POPs control and reduction will be demonstrated in pilot provinces to generate experience and lessons for replication throughout the country.

## SECTION B. REASONS FOR UNIDO ASSISTANCE

75. UNIDO is committed to assist its developing country Member States in accordance with the Stockholm Convention. The GEF has approved Enabling Activities proposals submitted by UNIDO for more than 40 countries, including China and India that have opted to undertake the NIP development through the GEF full project cycle. In addition, UNIDO is executing or developing a range of demonstration and capacity building projects geared to support Convention implementation. UNIDO has made considerable effort to build this assistance programme. This commitment is based on a clear understanding that these activities are compatible with UNIDO's mandate and corporate strategy and will lead towards the Millennium Development Goals.

76. China is UNIDO's largest recipient of technical cooperation assistance. Activities undertaken in China by UNIDO include a range of measures related to investment, industrial efficiency and waste management. The experience gained in these projects will be of relevance in the proposed project in China. UNIDO's in-kind contribution to the project will comprise the establishment of a project focal point and the provision of the part-time assistance of senior staff within its Multilateral Environmental Agreements Branch to ensure the effective implementation of the project and to support project implementation.

77. In addition, UNIDO will continue to seek co-financing or associated financing for activities that further the objectives of the project and of implementation of the Stockholm Convention in China. More specifically, UNIDO co-financing to this project will contribute additional two seniors and one junior UNIDO staff to the Beijing office to support project implementation.

# SECTION C. THE PROJECT

## C.1. OBJECTIVE OF THE PROJECT

78. The **overall objective** of this 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.

79. 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.

## C.2. THE UNIDO APPROACH

***Project Implementation Arrangement***

80. ***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. It will assist 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 fulfil its obligations under the Stockholm Convention. UNIDO will provide periodic progress and financial reports to the GEF, as required.

81. A project focal point will be established within UNIDO to assist in the project execution. This focal point will be comprised of a part-time professional and support staff, in particular of senior staff engaged in the management and coordination of UNIDO's programme of support to the Stockholm Convention. UNIDO will make these services available as part of its in-kind contribution to the project.

82. SEPA is the designated national leading agency and focal point of the implementation of the Stockholm Convention in China. As such, ***SEPA*** will be the ***national implementing agency*** (NIA) for the project. Within SEPA, 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.

83. The ***Foreign Economic Cooperation Office (FECO)*** of SEPA will act as the ***national executing agency*** (NEA). SEPA/FECO has about 15 years experience in the development, implementation and managerial oversight of projects and programmes funded by various MEAs 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.

84. Managerial responsibilities for the full project will be delegated to a ***Project Management Office (PMO)*** to be established within FECO/SEPA, and a ***National Project Manager (NPM)*** will be recruited for the day-to-day project management. A specialist competent in project management will assist the NPM. PMO will manage all local elements of the project including the recruitment and supervision of project managers of the 3 local Convention Implementation Units for suitable groups of activities. It will cooperate with UNIDO in the procurement and delivery of project inputs and the organisation of project activities. The PMO will prepare periodic forward planning and progress reports through FECO to UNIDO and TCG. The PMO will provide periodic financial reports to UNIDO.

85. To ensure that the Convention is implemented and its obligations met, China has set up a high-level intra-ministerial ***National Coordination Group (NCG)*** chaired by SEPA and consisting of other 10 related ministries and a Stockholm CIO within SEPA. This NCG will be supported to make more scientific decisions and effective coordination by 3 advisory boards to be established in the fields of policy, technical and scientific researches.

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

87. Three ***Local Convention Implementation Units (LCIUs)*** will 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)*** will be established to act as technology information clearinghouse. Both the three LCIUs and the TTPC will perform their work under the direct supervision of the PMO. 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 PIPs.

88. ***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.

89. The proposed management structure for the full project is shown diagrammatically in Figure 3 below.

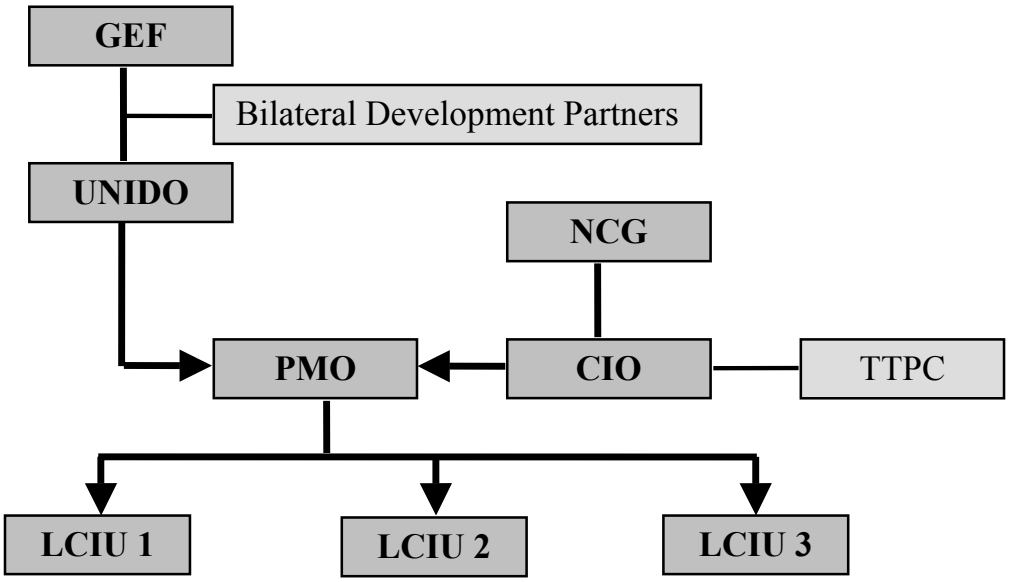



**Fig. 3: Proposed Management Structure for the SIRE project**

NCG: National Coordination Group for Implementation of the Stockholm Convention
CIO: Convention Implementation Office
PMO: Project Management Office
TTPC: Technology Transfer Promotion Centre
LCIU: Local Convention Implementation Unit

## C.3 RATIONALE FOR GEF INTERVENTION

90. This project will respond effectively to the articles of the Convention, including:

- Article 9: Each Party shall facilitate or undertake the **exchange of information**. Each Party shall designate a national focal point for the exchange of such information.
- Article 10: Each Party shall, within its capabilities, promote and facilitate **awareness** among its policy and decision makers with regard to persistent organic pollutants, provision to the public of all available information, development and implementation of educational and public awareness programs, public participation, training of workers, scientists, educators and technical and managerial personnel, development and exchange of educational and public awareness materials at the national and international levels, and development and implementation of **education and training** program at the national and international levels.
- In addition, Article 10 also states that each Party shall, within its capabilities, ensure that the public has access to public information and that the information is kept up-to-date. Each Party shall, within its capabilities, encourage industry and professional users to promote and facilitate the provision of the information at the national level and, as appropriate, sub-regional, regional and global levels. Each Party shall give sympathetic consideration to developing **mechanisms,** such as pollutant release and transfer registers, **for the collection and dissemination of information** on estimates of the annual quantities of the chemicals listed in Annex A, B or C of the Convention that are released or disposed of.
- Article 11: The Parties shall, within their capabilities, at the national and international levels, encourage and/or undertake appropriate **research, development, monitoring and cooperation** pertaining to persistent organic pollutants and, where relevant, to their alternatives and to candidate persistent organic pollutants. The Parties shall, within their capabilities, support national and international efforts to strengthen national scientific and technical research capabilities, particularly in developing countries and countries with economies in transition.
- Article 12: The Parties shall cooperate to provide timely and appropriate technical assistance to developing country Parties and Parties with economies in transition, to assist them, taking into account their particular needs, to develop and **strengthen** their **capacity** to implement their obligations under this Convention.
- Article 16: Comparable and reliable monitoring data is the basis for the **effectiveness evaluation**. Therefore, each Party has the obligation to allocate such **monitoring data**, in accordance with their technical and financial capacities, using existing programmes and mechanisms to the extent possible and promoting harmonization of approaches.
- Article 13 of the Convention sets out the principles on which “developed country Parties shall provide new and additional financial resources to enable developing country Parties and Parties with economies in transition to meet the agreed full incremental costs of implementing measures that fulfil their obligations under the Convention”. Article 14 of the Convention states that “The institutional structure of the Global Environment Facility (GEF)… shall, on an interim basis, be the principal entity entrusted with the operations of the financing mechanism referred to in Article 13…”.

91. In response, the Council of the GEF agreed at its 19th meeting in May 2002 to amend the Instrument of the Facility to enable it to serve as an entity entrusted with the operation of the financing mechanism of the Convention. The Council having reviewed document GEF/C.19/14 recommends that the GEF Assembly designate “Persistent Organic Pollutants (POPs)” as a focal area (OP#14) in support to the implementation of the Convention.

92. According to OP#14, the GEF will provide funding, on the basis of agreed incremental costs, for three types of activities to address POPs issues – capacity building, on-the-ground interventions and targeted research. The activities under capacity building include: 1) strengthening of human and institutional capacity; 2) strengthening and harmonization of the policies and regulations; 3) strengthening of monitoring and enforcement capacity; 4) developing capacity to assess technologies and management practices, and promoting and

facilitating the transfer of viable and cost-effective options and management practices; 5) developing and implementing public awareness/information/environmental education programs; and 6) facilitating dissemination of experiences and lessons learned and promoting information exchange. Most all of these activities are contained in this project.

93. 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.

## C.4 RBM CODE AND THEMATIC AREA CODE

B16 - Environment

## C.5 EXPECTED OUTCOMES, OUTPUTS AND ACTIVITIES

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

94. The effectiveness of the implementation of the Stockholm Convention and NIP will be strengthened by creating a sound enabling environment on:

- **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.

***Output 1: Improved policy and regulatory framework***

95. There is an incomplete policy and regulatory framework for POPs. There is no specific policy and regulation regarding POPs management and control. The stipulations related with POPs management are dispersed in different laws and regulations that are difficult to coordinate where some stipulations are impracticable.

96. The NIP has identified the list of laws, regulations and standards of the environmental protection legislation system in relation to POPs for revision or establishment in order to create a sound policy and regulatory regime for POPs management. Taking a cross-cutting principle, the proposed project has further selected the laws, regulations and standards for study, revision or establishment during 2007-2010 as shown in Table 2.

**Table 2: Legislations for the creation of an enabling policy and regulatory framework**

| Tier | Laws, regulations, rules and technical standards | Action | Responsibility |
|---|---|---|---|
| Tier 1: Laws and regulations | Law on Recycling Economy | Study | National People's Congress |
| | Law on Control of Toxic and Hazardous Chemical Substances | Study | National People's Congress |
| | Law on Ecologic Protection | Study | National People's Congress |
| | Law on Prevention and Control of Soil Pollution of China | Study | National People's Congress |
| | Law on Ecologic Protection of China | Study | National People's Congress |
| | Law on Biologic Safety of China | Study | National People's Congress |
| | Law on Compensation for Damages of Environmental Pollution of PRC | Study | National People's Congress |
| | Environment Protection Law of China | Study | National People's Congress |
| | Law on Environmental Impact Assessment of China | Study | National People's Congress |
| | Law on the Prevention and Control of Atmospheric Pollution of China | Study | National People's Congress |
| | Regulation on Environmental Pollution Control and Deadline Treatment | Study | State Council |
| | Regulation on the Administration of Environmental Inspection | Study | State Council |
| | Regulation on the Work of Environmental Supervision | Study | State Council |
| | Regulation on the Administration of Deadline Treatment of Environmental Pollution | Study | State Council |
| | Regulation on the Environment Protection of Countryside | Study | State Council |
| | Regulation on Environmental Management for Construction Project | Study | State Council |
| | Regulation on the Administration of Pesticide | Study | State Council |
| | Regulation on Safety Administration of Hazardous Chemical | Study | State Council |
| | Regulation on Environmental Administration of the First Import of Chemicals and the Import and Export of Toxic Chemicals | Study | State Council |
| | Regulation on the Administration of the Prevention and Control of Pollution in Protected Areas for Drinking Water Sources | Study | State Council |
| | Regulation on Administration of Reducing and Eliminating POPs | Study | State Council |
| Tier 2: Administrative Rules | Measures on Administration of Reducing and Eliminating POPs | Study | SEPA |
| | Rules on Environmental Administration of the First Import of Chemicals and the Import and Export of Toxic Chemicals | Amending | SEPA |

| | | | |
|---|---|---|---|
| | Implementing Measures on Regulation on Environmental Administration of the First Import of Chemicals and the Import and Export of Toxic Chemicals | Amending | SEPA |
| | Rules on Preventing the electric equipments including PCBs and their wastes polluting environment | Amending | SEPA |
| | Rules on the operation Administration of the electric equipments including PCBs | Amending | SEPA |
| | Measures on the Environmental Administration of Polluted Sites | Study | SEPA |
| | Rules on the Administration of Operation Licenses for Hazardous Wastes | Study | SEPA |
| | Rules on the Administration of the Import and Export of Solid Wastes | Study | SEPA |
| | Measures on Assessment of Damage of Environmental Pollution | Study | SEPA |
| | Measures on Compensation and Payment of Damage of Transboundary Environmental Pollution | Study | SEPA |
| | Administrative Regulations on POPs Reduction and Control | Making | Provincial Congress |
| Tier 3:<br>Technical policies, guidelines and standards | Guiding Catalogue for Adjustment of Industrial Structure | Amending | NDRC |
| | Catalogue of Names of Hazardous Goods | Amending | SEPA |
| | Catalogue of Hazardous Chemicals | Amending | SEPA |
| | Guideline of Environment Impact Assessment Technologies of Construction Projects – General | Amending | SEPA |
| | Ambient Air Quality Standard(GB3095-1996) | Amending | SEPA |
| | Environmental Quality Standard for Surface Water (GB3838-2002) | Amending | SEPA |
| | Environmental Quality Standard for Ground Water (GB/T14848-93) | Amending | SEPA |
| | Standards for Irrigation Water Quality (GB5084-92) | Amending | SEPA |
| | Environmental Quality Standard for Soils (GB 15618-1995) | Amending | SEPA |
| | Water Quality Standard for Fisheries (GB 11607-89) | Amending | SEPA |
| | Sea Water Quality Standard GB3097-1997) | Amending | SEPA |
| | Air and Exhaust Air –PCDD/Fs Measurement | making | SEPA |
| | Isotope Dilution/HR Gas Chromatography - HD Mass Spectrum Method | making | SEPA |
| | Air and Exhaust Air – PCDD/Fs Measurement Biology Screening Method | making | SEPA |
| | Water Quality - PCDD/Fs Measurement | making | SEPA |
| | Isotope Dilution/ HR Gas Chromatography - HD Mass Spectrum Method | making | SEPA |
| | Water Quality - PCDD/Fs Measurement Biology Screening Method | making | SEPA |
| | Soil-Aggradations - PCDD/Fs Measurement | making | SEPA |
| | Isotope Dilution/HR Gas Chromatography - HD Mass Spectrum Method | making | SEPA |
| | Soil-Aggradations - PCDD/Fs Measurement Biology Screening Method | making | SEPA |

| | | | |
|---|---|---|---|
| | Solid Waste - PCDD/Fs Measurement | making | SEPA |
| | Isotope Dilution/ HR Gas Chromatography- HD Mass Spectrum Method | making | SEPA |
| | Solid Waste - PCDD/Fs Measurement Biology Screening Method | making | SEPA |
| | Cleaner Production Standards – Compulsory Cleaner Production Audit Procedure and Method | making | SEPA |
| | Cleaner Production Standards – Compulsory Cleaner Production Audit Assessment Method | making | SEPA |
| | General Design Rules of Gaseous Contamination Control Engineering- Catalysis Method | making | SEPA |
| | General Design Rules of Particulate Contamination Control Engineering | making | SEPA |
| | General Design Rules of Gaseous Contamination Control Engineering | making | SEPA |
| | Design Rules of Gaseous Contamination | making | SEPA |
| | Control Engineering-Absorption Method | making | SEPA |
| | General Design Rules of Bag-type Dust Removing Engineering | making | SEPA |
| | Design Rules of Gaseous Contamination Control Engineering- Adsorption Method | making | SEPA |
| | Guideline of Planning Environment Impact Assessment Technologies –Industry | making | SEPA |

97. The project focuses on the three tiers of legislation:

(i) Tier 1: laws and administrative regulations that can be established or revised only by the National People's Congress, the Standing Committee of the National People's Congress, or the State Council;

(ii) Tier 2: administrative rules and provincial regulations that can be established or revised by ministries and provincial congresses, and

(iii) Tier 3: technical policies, guidelines, standards, and catalogues that can be established or revised by ministries.

For Tier 1, recommendations for relevant revisions or establishment will be provided by this project. For Tier 2, most of the legislative pieces will be enacted. All the technical policies, standards, guidelines and catalogues listed in Tier 3 will be issued.

| **Output/Activities** | | **Responsibility** |
|---|---|---|
| 1.1 | Provide suggestions to the establishment or amendment of the laws and regulations related to POPs. 21 laws/regulations and 11 administrative rules in Tier 1 and 2 are to be focused. | CIO/FECO |
| 1.2 | Draft *National Administrative Rules on POPs Reduction and Control* of Tier 2 to comprehensively govern the POPs production, distribution, use, import and export, waste, stockpiles and contaminated site, taking into account the experience and results from Activity 1.5. | CIO/FECO, SEPA |
| 1.3 | Incorporate Convention requirements defined in the NIP into the first 3 technical policies of Tier 3. | SEPA |

| Output/Activities | | Responsibility |
|---|---|---|
| 1.4 | Develop or revise the 30 technical policies, guidelines, standards of Tier 3 with the timeframe defined in the NIP in order to establish the standards system regarding POPs management in terms of environmental quality, product quality, pollutant emission and cleaner production. | SEPA |
| 1.5 | Promulgate and bring into effect the Provincial Administrative Regulations on POPs Reduction and Control to strengthen the provincial legislation regarding the Convention and NIP implementation in 3 demonstration provinces and disseminate the experience for replication in other provinces. | CIO/FECO, Local PMOs |

***Output 2: Co-financing strategy developed***

98. According to the NIP, China will need about US$ 4.3 million in total to accomplish the identified actions in the 10 years to come (2006-2015). It can be seen from Table 3 that most of the fund is needed for actions on UP-POPs. According to the NIP, one-fourth of the fund will be needed to demonstrate the adoption of BAT/BEP before 2010 and much larger amount of the fund for widespread replication afterwards.

**Table 3: Estimated funds needed for the NIP implementation**

| NIP components | Estimated cost (1,000 RMB) | Estimated cost (1,000 US$) | Percentage (%) |
|---|---|---|---|
| Capacity building | 432,400 | 55,436 | 1.28 |
| Pesticide POPs and PCBs | 1,185,811 | 152,027 | 3.50 |
| UP-POPs | 28,312,210 | 3,629,771 | 83.48 |
| Stockpile and wastes | 2,365,278 | 303,241 | 6.97 |
| Research & Development | 1,617,404 | 207,359 | 4.77 |
| **Total** | **33,913,103** | **4,347,834** | **100.00** |

99. Apparently, the earmarked US$ 282 million to the focal area of POPs in GEF-4 (2007-2010) is far from being sufficient to support China, the largest developing country, to implement the NIP. Therefore, a study on the establishment of a viable co-financing mechanism is both of urgency and important, which hopefully can mitigate the significant gap in funding. To that end, the mechanism to channel the needed fund from multilateral and bilateral sources, central and local governments, enterprises and the public will be studied by this project.

| Output/Activities | | Responsibility |
|---|---|---|
| 2.1 | Identify the principal stakeholders including central and local governments, enterprises, international communities and the public. | CIO/FECO |
| 2.2 | Determine the principles and mechanism for responsibility sharing among the stakeholders for different types of activities, e.g. non-profitable and profitable activities. | CIO/FECO, UNIDO, TCG |
| 2.3 | Explore public-private partnerships to involve private sectors and introduce competitions in investing and operating POPs reduction and control projects and study the economic and financial policies that will ensure the reasonable rate of return of the investments. | CIO/FECO, UNIDO |
| 2.4 | Develop the strategy on financing mechanism for China to implement the Convention and the NIP. | CIO/FECO |
| 2.5 | Hold fund raising workshops by inviting key stakeholders at home and abroad, including related ministries, multilateral organizations, bilateral countries, financial institutions, private sectors and the public. | CIO/FECO, UNIDO, TCG, Local PMOs |
| 2.6 | Implement the strategy in one of the demonstration provinces to channel sufficient co-financing from multiple sources and improve the funding using efficiency in implementing POPs reduction and control activities. | CIO/FECO, Local PMOs |

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

100. Outcome 2 will establish and strengthen the following institutional capacities, which will bring about more and wider participation and coordination among stakeholders, adoption of harmonized approaches and operations in environment protection programmes, plans and projects to obtain both national and international benefits and improved institutional management relevant to Stockholm Convention compliance.

- **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 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.

***Output 3: Environmental monitoring***

| Output/Activities | | Responsibility |
|---|---|---|
| 3.1 | Develop a unified monitoring programme for monitoring of POPs in environmental and human samples for effectiveness evaluation in line with Article 16 of the Convention. | CIO/FECO, UNIDO |
| 3.2 | Organize national training on monitoring of pesticide POPs and PCBs in environmental samples for the provincial environmental monitoring stations and 3 such trainings for the municipal and country environmental monitoring stations in the 3 demonstration provinces. | CIO/FECO, UNIDO, Local PMOs |
| 3.3 | Organize training for the existing dioxins monitoring laboratories on pre-treatment and monitoring of dioxins in sources and environmental and human samples. | CIO/FECO, UNIDO |
| 3.4 | Organize a national training on monitoring of pesticide POPs and PCBs in human samples for the Centre for Disease Control and Prevention (CDC) laboratories in each province and 3 such trainings for the municipal and country laboratories of CDC in 3 demonstration provinces. | CIO/FECO, Local PMOs, UNIDO |
| 3.5 | Organize inter-laboratory comparisons and calibrations with the participation from all the trained laboratories. | CIO/FECO, UNIDO |

***Output 4: Research and Development***

| Output/Activities | | Responsibility |
|---|---|---|
| 4.1 | Establish the coordination mechanism between CIO/SEPA and the main R&D financial sources such as MOST, NSFC, MOE so as to incorporate the 10 priority topics for R & D defined in NIP into the Application Guidelines of main resources for R&D during the period of 11th Five Year Program. | CIO/FECO, UNIDO, TCG |
| 4.2 | Regularly evaluate the progress of national R&D activities related to POPs and their contributions to the Convention implementation. | CIO/FECO, UNIDO |
| 4.3 | Establish an incentive programme for promoting R&D results that can effectively and efficiently support the Convention implementation. | CIO/FECO, SEPA |
| 4.4 | Promote the exchange and communication of R&D progresses between the international and national academia. | CIO/FECO, UNIDO |

***Output 5: Technology transfer***

| Output/Activities | | Responsibility |
|---|---|---|
| 5.1 | Establish an assistance-oriented Technology Transfer Promotion Centre (TTPC) for the Convention implementation to promote accessibility to the needed technologies by the Chinese enterprises. | CIO/FECO, UNIDO |
| 5.2 | Enable the TTCP to work as a technology information clearinghouse to survey the technological status and demands of the enterprises in China and to provide the potential users with the information on commercially viable international and domestic technologies. | CIO/FECO, UNIDO |
| 5.3 | Provide enterprises with assistance in optimising the technical and engineering design to meet the requirements of the Convention including training of enterprises to adopt BAT/BEP in key sectors of UP-POPs releases. | CIO/FECO, UNIDO |
| 5.4 | Establish a technological coordination and cooperation platform with the participation of international organizations, relevant governmental agencies, technology vendors, industry associations and enterprises to promote introduction and transfer of technologies from the technology suppliers to demanders. | CIO/FECO, UNIDO |
| 5.5 | Evaluate the barriers in technology transfer and propose the instruments to remove the barriers for continuous improvement of the TTPC performance. | CIO/FECO, UNIDO |

***Output 6: Institutional strengthening for data collection, processing and reporting***

101. According to the requirements of the Convention and its COPs, POPs data should be collected and processed to meet the reporting requirements. Parties shall:

- Pursuant to Article 15, report to the Conference of the Parties on the measures it has taken to implement the provisions of the Convention and on the effectiveness of such measures in meeting the objectives of the Convention;
- Pursuant to para 2, Article 16, provide comparable monitoring data on the presence of the chemicals listed in Annexes A, B and C of the Convention as well as their regional and global environmental transport;
- Pursuant to para (g) of Part II in Annex A and adhering to the requirement and format issued by COP1 for PCBs reporting, transmit every 5 years a progress report on PCBs elimination;
- Pursuant to para 4 of Part II in Annex B and adhering to the requirement and format decided and issued by the Conference of the Parties in consultation with the World Health Organization (WHO), provide every three years to the Secretariat and the WHO information on the amount used, the conditions of such use and its relevance to that Party's disease management strategy.

102. In addition to the Convention requirements, the NIP has also identified the capacity building for information management as a priority action. Detailed planning was made in Action 39, Action 54, Action 55, Action 57, Component 12, Component 14, and Component 15 for:

- Establishing a dynamic monitoring and data reporting mechanism for the release sources in key sectors by 2015;
- Improving the dynamic database system for stockpiles and wastes; and
- Establishing a dioxin contained waste declaration and registration system by 2015;

103. During the development of the NIP, the CIO has established the POPs information centre for managing the information system of projects. The POPs management information system (POPs MIS) is made up of a three-tier network system including an internal platform for supporting decision making, a collaborative platform for information exchange and an internet website for information dissemination.

104. However, the POPs MIS has not been made fully functional to meet the POPs data collection, processing and reporting mainly due to the lack of a feasible and effective information collection mechanism among relevant ministries and industry associations, staff shortage at the CIO, and low awareness and capacity for POPs information collection and reporting at local levels. These constraints will be addressed in the proposed project.

| Output/Activities | | Responsibility |
|---|---|---|
| 6.1 | Identify the needs of information required by the Convention Secretariat, COPs, relevant international organizations and domestic agencies and develop the guidelines for information collection, analysis and dissemination. | CIO/FECO, UNIDO, TCG |
| 6.2 | Strengthen the integration of the information collected by the on-going regular projects and projects under planning into the POPs MIS. | CIO/FECO, UNIDO |
| 6.3 | Establish information collection channels for the chemicals included in Annex A and B of the Convention by POPs type mainly through the ministries and industry associations as defined in the NIP. | CIO/FECO, Local PMOs, UNIDO, TCG |
| 6.4 | Establish and implement the procedures for information collection on UP-POPs included in Annex C of the Convention based on the current Pollutants Discharge Reporting and Registration System in demonstration provinces. | CIO/FECO, Local PMOs |
| 6.5 | Analyse the disseminate information mainly through the website of the POPs information centre. | CIO/FECO |

***Output 7: Institutional strengthening for decision making and legislation enforcement***

105. To ensure that the Convention is implemented and its obligations met, China has set up a high-level intra-ministerial National Coordination Group (NCG) chaired by SEPA and consisting of other 10 related ministries and a Stockholm CIO within SEPA. This NCG will be supported to make more scientific decisions and effective coordination by 3 advisory boards to be established in the fields of policy, technical and scientific researches. In order to successfully achieve the objectives of the NIP and sustainably undertake POPs reduction and control, POPs issues must be first incorporated into the legislative framework. A wide array of stakeholders must be mobilized to strengthen the enforcement of the legislation, particularly at the local levels. Environmental protection departments at all levels and many national centres promoting environmental management, environmental impact assessment and cleaner production should incorporate POPs issues into their working agenda and be equipped with necessary capacity to carry out the new tasks. Other relevant departments should be trained to be aware and responding to POPs issues within their administrative domains. The public and civil society should be instigated to play a supervisory role. Under external supervisions, the enterprises should be instructed to exercise self-disciplined practices and adopt cleaner production to improve their environmental image and product competitiveness.

| Output/Activities | | Responsibility |
|---|---|---|
| 7.1 | Strengthen the coordination of NCG and support its decision-making on important events by establishing the national advisory boards and build up the CIO with needed infrastructure and trained human resources for efficient and effective implementation of the NIP. | CIO/FECO, SEPA, NCG |
| 7.2 | Establish a Local Convention Implementation Unit and develop a provincial implementation plan (PIP) in each of the 3 demonstration provinces based on the experience derived from the NIP development. | CIO/FECO, Local; PMOs, UNIDO |
| 7.3 | Develop training materials and conduct training for the environmental protection departments at the central, regional, and local levels and for the national technical management centres in charge of EIA and cleaner production promotion. | CIO/FECO, Local PMOs |
| 7.4 | Launch joint inspections with relevant departments to inspect the compliance of the key POPs producing and releasing enterprises. | CIO/FECO, Local PMOs |
| 7.5 | Instigate NGOs, third-party environmental certification and auditing institutions and individuals to supervise POPs management within their respective areas of interests. | CIO/FECO, SEPA |
| 7.6 | Establish and strengthen self-monitoring and supervision by training internal environmental supervisors in selected demonstration enterprises to conduct internal environmental supervision within enterprises and interact with CIO. | CIO/FECO, Local PMOs, UNIDO |

***Output 8: Institutional strengthening for evaluation and follow-up***

106. The Convention states that commencing four years after the date of entry into force and periodically thereafter at intervals to be decided by the Conference of Parties, the COP shall evaluate the effectiveness of this Convention.

107. Meanwhile, China needs the findings, conclusion or recommendations of evaluations to judge the performance of NIP programmes, facilitate improvements, generate knowledge and support decision-making. By undertaking evaluation, the CIO and other participants can make the changes in procedures and practices. Such participatory evaluations can help to enhance shared understanding and communications among stakeholders, support and reinforce the NIP programme intervention, increase engagement, self determination and ownership, nurture an evaluation culture within the CIO and other related organizations.

| Output/Activities | | Responsibility |
|---|---|---|
| 8.1 | Establish a working team for evaluation led by CIO and composed of the representatives from advisory committees, governments, industry associations, enterprises and the public. | CIO/FECO, Local PMOs, NCG |
| 8.2 | Train the evaluation staff on the requirements of the Convention and develop capacity for qualified evaluation reports, make recommendations for proper administrative adjustments, update the strategies and action plans and generate experience and knowledge for dissemination. | CIO/FECO, LCIUs |
| 8.3 | Evaluate the results and impacts of the NIP implementation by conducting all the evaluations outlined in the NIP, taking into account the guidance from the Convention for effectiveness evaluation:<br>• Monitor and evaluate, in terms of output delivery, the overall progress of various implementing stakeholders;<br>• Evaluate the results and impacts from implementation of action plans on pesticide POPs, PCB, UP-POPs and strategy on stockpile, wastes and contaminated sites;<br>• Conduct the comprehensive evaluation of the effects of the NIP implementation by integrating the above evaluation results. | CIO/FECO, LCIUs, UNIDO |

| Output/Activities | | Responsibility |
|---|---|---|
| 8.4 | Further assess the capacity needs for the Convention implementation, focusing on the industries and provinces. | CIO/FECO, Local PMOs |
| 8.5 | Hold a workshop to discuss and disseminate the evaluation findings to international and domestic stakeholders and widely disseminate the results through various forms of media including Internet, publications, CDs and brochures. | CIO/FECO, Local PMOs, LCIUs, TCG, UNIDO |

**Outcome 3: Changed attitudes and behaviors to promote environmental protection**

108. POPs related public awareness would be improved through an awareness raising campaign and other public education activities, such as:

- Preparation of materials on POPs environmental damage;
- Motivating media channels to disseminate POPs information; and
- Working with relevant ministries for integrating POPs issues into existing education and training systems.

***Output 9: Public awareness***

109. Public awareness needs to be addressed through:

**Awareness raising:** Present gaps include absence of popular materials/media containing information about POPs, no related content in existing programmes of environmental protection dissemination and education and insufficient participation of relevant organizations.

**Making information accessible:** The judgement should be based on facts. These must be collected from research results, evaluated and organised and transformed into accessible information via different routes: websites, educational and informational printed matter, broadcasts, etc. Since there is still a lack of data and many data are very uncertain, these shortcomings should also be clearly communicated.

**Creating opportunities for participation:** Individuals may not restrict their decisions to concern protection measures for themselves as individuals. They may also wish to influence the decisions of others, such as industries or legislators. Present gaps include a very weak tradition of public participation and lack of channels for such participation.

| Output/Activities | | Responsibility |
|---|---|---|
| 9.1 | Establish a platform for effective POPs information distribution by mobilising various news media, including TV, radio, newspaper and Internet. | CIO/FECO |
| 9.2 | Establish partnerships with environmental protection promotion programmes, campaigns, NGOs, community based organizations (CBOs), academia and schools as vehicles for raising public awareness of POPs issues. | CIO/FECO, LCIUs |
| 9.3 | Prepare materials including popular readings, TV programmes, movies, brochures, posters, etc. for raising public awareness of POPs issues. | CIO/FECO, LCIUs |
| 9.4 | Distribute POPs information and publicly materials that take advantages of the established platform and partnerships. | CIO/FECO, LCIUs |
| 9.5 | Implement a special programme for public awareness promotion to prepare peasant tailored materials and avail POPs information to rural areas using special distribution channels such as mobile mini buses mobilising NGO volunteers. | CIO/FECO, Local PMOs, LCIUs |

***Output 10: Education***

110. According to the Convention, the targeted groups for educations should mainly include:

a. managerial personnel, e.g. government officers;

b. Technical personnel, e.g. scientists, engineers, workers;

c. Educators and students.

111. Based on the current environmental education and communication network, the following activities are designed to establish a POPs education system.

| Output/Activities | | Responsibility |
|---|---|---|
| 10.1 | Study the related education curriculum to identify gaps in meeting the requirements of the Convention and develop proposals to relevant agencies to modify the related curriculum. | CIO/FECO |
| 10.2 | Prepare textbook and training materials and train at least 1 teacher or researcher of environmental studies from each of the 100 universities, colleagues and research institutes to enable them to impart POPs knowledge to students. | CIO/FECO |
| 10.3 | Prepare textbooks and training materials and train at least 1 teacher from each of the 300 middle schools and primary schools to enable them to popularise POPs knowledge to students. | CIO/FECO |
| 10.4 | Carry out demonstrations of POPs education in selected universities, middle schools and primary schools. Evaluate the experience derived from the demonstration in order to improve the POPs education system. | CIO/FECO |
| 10.5 | Design and implement an on-line POPs education programme involving high-quality teachers organized by the CIO and university students attending the programme with approvals by their schools. | CIO/FECO |
| 10.6 | Organize training workshops for mayors of cities. | CIO/FECO, Local PMOs |

**Outcome 4: Project management and oversight**

112. A project management and oversight component is designed to provide effective and efficient management support for the implementation of the project.

113. In order to strengthen the harmonization with and coordination between the implementation of the seventeen action plans and the action plans defined in the NIP, activities under this Outcome will support the operation of the national coordination mechanism and extend the operation of the Technical Coordination Group (TCG) established for NIP development.

***Output 11: Project management, monitoring & evaluation***

114. China has established the NCG for the Convention implementation, chaired by SEPA and comprising of 11 ministries and state administrations, to ensure that actions required for the Convention implementation could be taken and coordinated at the highest levels. The group will continue its roles to coordinate and ensure that those discrete NIP activities including review, reporting, evaluation and updating of the NIP could be efficiently and coherently undertaken in time.

115. At international level, SEPA will continue to convene TCG meetings at the milestone stages of the NIP implementation. The TCG has provided active inputs and contributions in the stage of the NIP development, and will continue its roles in reviewing and commenting on the outputs, providing guidance at macro-level, helping disseminate findings and achievements and assisting in financing raising for the implementation of the NIP related action plans and activities.

116. Besides a normally established structure for project management, monitoring and evaluation, the project will support the continuous operation of the national and international coordination mechanisms mentioned above for the effective and efficient implementation of NIP.

| Output/Activities | | Responsibility |
|---|---|---|
| 11.1 | Establish the national project management office (PMO) for the project to be in charge of the management, implementation and coordination of the project activities under the guidance of the CIO, recruit a national project manager (NPM) to be responsible for the day-to-day project management and recruit the supporting staff for the NPM. | CIO/FECO, UNIDO |
| 11.2 | Establish 3 local project implementation units in 3 demonstration provinces to coordinate and organize trainings, awareness raising inspections, supervise the project implementation at local level and collect information and compile progress reports. | CIO/FECO, LCIUs |
| 11.3 | Establish a National Coordination Group to provide guidance to the project at the macro level, review and comment on project outputs and help disseminate project findings and outputs. | CIO/FECO, NCG |
| 11.4 | Recruit and sustain employment of national experts and subcontractors as necessary to deliver project outputs. | CIO/FECO |
| 11.5 | Prepare, in consultation with relevant responsible ministries or administrations as well as international and bilateral agencies involved, annual implementation plans, progress reports and evaluation plans and present to the Leading Group of SEPA and NCG. | CIO/FECO, SEPA, NCG |
| 11.6 | Prepare and hold meetings of the TCG, to introduce the plans and progress of each action plan for comments and recommendations and mobilize the broadest participation and support for the implementation of the work plans. | CIO/FECO, UNIDO, TCG |
| 11.7 | Designate a project focal point within UNIDO to provide project management and coordination, recruit international experts and provide technical advice and other services as necessary to assist SEPA. | UNIDO |
| 11.8 | Conduct Project Implementation Reviews. | UNIDO |
| 11.9 | Provide Independent management and financial reviews and undertake a final independent evaluation according to UNIDO and GEF M&E procedures at the end of the project. | UNIDO |

## C.6 TIMELINE OF THE ACTIVITIES

| Output / Activity | Year 1 | | | | Year 2 | | | | Year 3 | | | | Year 4 | | | | Year 5 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| **Output 1: Policy and regulatory framework** | | | | | | | | | | | | | | | | | | | | |
| Activity 1.1 Establishment or amendment of laws and regulations | | | | | | | | | | | | | | | | | | | | |
| Activity 1.2 Draft National Administrative Rules on POPs Reduction and Control | | | | | | | | | | | | | | | | | | | | |
| Activity 1.3 Incorporate the Convention requirement | | | | | | | | | | | | | | | | | | | | |
| Activity 1.4 Develop or revise the 30 technical policies, guidelines and standards | | | | | | | | | | | | | | | | | | | | |
| Activity 1.5 Promulgate and make into effect Administrative Regulations on POPs | | | | | | | | | | | | | | | | | | | | |
| **Output 2: Mechanisms and tools for financing** | | | | | | | | | | | | | | | | | | | | |
| Activity 2.1 Identify the principal stakeholders | | | | | | | | | | | | | | | | | | | | |
| Activity 2.2 Determine the principles and mechanism for the responsibility sharing | | | | | | | | | | | | | | | | | | | | |
| Activity 2.3 Explore public and private partnership | | | | | | | | | | | | | | | | | | | | |
| Activity 2.4 Develop the strategy for co-financing mechanism | | | | | | | | | | | | | | | | | | | | |

| Output / Activity | Year 1 | | | | Year 2 | | | | Year 3 | | | | Year 4 | | | | Year 5 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| Activity 2.5 Host fund raising workshops | | | | | | | | | | | | | | | | | | | | |
| Activity 2.6 Implement the strategy in one of the demonstration provinces | | | | | | | | | | | | | | | | | | | | |
| **Output 3: Environmental monitoring** | | | | | | | | | | | | | | | | | | | | |
| Activity 3.1 Develop a unified monitoring programme | | | | | | | | | | | | | | | | | | | | |
| Activity 3.2 Train monitoring of pesticides POPs and PCBs in environmental samples | | | | | | | | | | | | | | | | | | | | |
| Activity 3.3 Organise training for the existing dioxins monitoring laboratories | | | | | | | | | | | | | | | | | | | | |
| Activities 3.4 Train monitoring of pesticide POPs and PCBs in human samples | | | | | | | | | | | | | | | | | | | | |
| Activity3.5 Organize inter-laboratory comparisons and calibrations | | | | | | | | | | | | | | | | | | | | |
| **Output 4: Research & Development** | | | | | | | | | | | | | | | | | | | | |
| Activity 4.1 Establish the coordination mechanism | | | | | | | | | | | | | | | | | | | | |

| Output / Activity | Year 1 | | | | Year 2 | | | | Year 3 | | | | Year 4 | | | | Year 5 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| Activity 4.2 Regularly evaluate the progress of national R&D activities | | | | | | | | | | | | | | | | | | | | |
| Activity 4.3 Establish an incentive programme for promoting R&D results | | | | | | | | | | | | | | | | | | | | |
| Activity 4.4 Promote the exchange and communication of R&D progresses | | | | | | | | | | | | | | | | | | | | |
| **Output 5: Technology transfer** | | | | | | | | | | | | | | | | | | | | |
| Activity 5.1 Establish an assistance-oriented Technology Transfer Promotion Centre | | | | | | | | | | | | | | | | | | | | |
| Activity 5.2 Enable the centre to work as a technology information clearinghouse | | | | | | | | | | | | | | | | | | | | |
| Activity 5.3 Assist enterprises in optimising the technical and engineering design | | | | | | | | | | | | | | | | | | | | |
| Activity 5.4 Establish a technological coordination and cooperation platform | | | | | | | | | | | | | | | | | | | | |
| Activity 5.5 Evaluate the barriers in technology transfer | | | | | | | | | | | | | | | | | | | | |
| **Output 6: Data collection, processing and reporting** | | | | | | | | | | | | | | | | | | | | |
| Activity 6.1 Identify the needs of information | | | | | | | | | | | | | | | | | | | | |

| Output / Activity | Year 1 | | | | Year 2 | | | | Year 3 | | | | Year 4 | | | | Year 5 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| Activity 6.2 Strengthen the integration of the information | | | | | | | | | | | | | | | | | | | | |
| Activity 6.3 Establish information collection channels | | | | | | | | | | | | | | | | | | | | |
| Activity 6.4 Establish procedures and collect information of UP-POPs | | | | | | | | | | | | | | | | | | | | |
| Activity 6.5 Analyse and disseminate information | | | | | | | | | | | | | | | | | | | | |
| **Output 7: Institutional strengthening for decision making and legislation enforcement** | | | | | | | | | | | | | | | | | | | | |
| Activity 7.1 Strengthen the coordination of NCG and support its decision making | | | | | | | | | | | | | | | | | | | | |
| Activity 7.2 Establish 3 local convention implementation units and develop PIPs | | | | | | | | | | | | | | | | | | | | |
| Activity 7.3 Training the environmental protection departments at the central, regional and local levels | | | | | | | | | | | | | | | | | | | | |
| Activity 7.4 Launch joint inspections | | | | | | | | | | | | | | | | | | | | |
| Activity 7.5 Instigate NGOs, etc. to supervise self-policing and supervision | | | | | | | | | | | | | | | | | | | | |
| Activity 7.6 Establish and strengthen self-policing and supervision | | | | | | | | | | | | | | | | | | | | |

| Output / Activity | Year 1 | | | | Year 2 | | | | Year 3 | | | | Year 4 | | | | Year 5 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| **Output 8: Evaluation** | | | | | | | | | | | | | | | | | | | | |
| Activity 8.1 Establish a working team for evaluation | | | | | | | | | | | | | | | | | | | | |
| Activity 8.2 Train the evaluation staff | | | | | | | | | | | | | | | | | | | | |
| Activity 8.3 Evaluate the results and impacts of the NIP implementation | | | | | | | | | | | | | | | | | | | | |
| Activity 8.4 Further assess the capacity needs for the Convention implementation | | | | | | | | | | | | | | | | | | | | |
| Activity 8.5 Hold a workshop to discuss and disseminate the evaluation findings | | | | | | | | | | | | | | | | | | | | |
| **Output 9: Public awareness** | | | | | | | | | | | | | | | | | | | | |
| Activity 9.1 Establish a platform for effective POPs information distribution | | | | | | | | | | | | | | | | | | | | |
| Activity 9.2 Establish partnerships with other environmental awareness of promotion programme | | | | | | | | | | | | | | | | | | | | |
| Activity 9.3 Make materials for raising public awareness of POPs issues | | | | | | | | | | | | | | | | | | | | |
| Activity 9.4 Distribute POPs information | | | | | | | | | | | | | | | | | | | | |

| Output / Activity | Year 1 | | | | Year 2 | | | | Year 3 | | | | Year 4 | | | | Year 5 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| Activity 9.5 Implement a special programme for public awareness promotion | | | | | | | | | | | | | | | | | | | | |
| **Output 10: Education** | | | | | | | | | | | | | | | | | | | | |
| Activity 10.1 Study the related education curriculum | | | | | | | | | | | | | | | | | | | | |
| Activity 10.2 Prepare textbook and training materials and train university teachers | | | | | | | | | | | | | | | | | | | | |
| Activity 10.3 Prepare textbook and training materials and train primary and middle school teachers | | | | | | | | | | | | | | | | | | | | |
| Activity 10.4 Carry out demonstrations of POPs education | | | | | | | | | | | | | | | | | | | | |
| Activity 10.5 Design and implement an on-line POPs education programme | | | | | | | | | | | | | | | | | | | | |
| Activity 10.6 Organize training workshops for mayors of cities | | | | | | | | | | | | | | | | | | | | |
| **Output 11: Project management, monitoring and evaluation** | | | | | | | | | | | | | | | | | | | | |
| Activity 11.1 Establish the national project management office (PMO) | | | | | | | | | | | | | | | | | | | | |
| Activity 11.2 Establish 3 local project implementation units (PIU) | | | | | | | | | | | | | | | | | | | | |

| Output / Activity | Year 1 | | | | Year 2 | | | | Year 3 | | | | Year 4 | | | | Year 5 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| Activity 11.3 Establish a National Coordination Group (NCG) | | | | | | | | | | | | | | | | | | | | |
| Activity 11.4 Recruit and sustain employment of national experts and subcontractors | | | | | | | | | | | | | | | | | | | | |
| Activity 11.5 Prepare annual implementation plans and reports | | | | | | | | | | | | | | | | | | | | |
| Activity 11.6 Prepare and hold the meetings of the TCG | | | | | | | | | | | | | | | | | | | | |
| Activity 11.7 Designate a project focal point within UNIDO | | | | | | | | | | | | | | | | | | | | |
| Activity 11.8 Conduct Project Implementation Reviews | | | | | | | | | | | | | | | | | | | | |
| Activity 11.9 Provide independent management and financial reviews | | | | | | | | | | | | | | | | | | | | |

## C.7 RISKS, SUSTAINABILITY, REPLICABILITY AND COST-EFFECTIVENESS

***Possible Risks***

117. Potential risks and the mitigation measures to be taken into account for this project are described in the table below.

**Table 4: Potential risks and mitigation measures**

| Potential Risks | Proposed Mitigation Measures | Rating |
|---|---|---|
| Enduring and effective cooperation between concerned agencies at all levels of government is unable to be achieved for the implementation of the project. | This risk is addressed by involving all stakeholders through national and local leading groups and coordination offices. It will also involve training and workshops aimed at increasing awareness of the need for cross-sectoral cooperation and the improved mechanisms required to achieve it. The coordinating role of the NCG and SEPA will facilitate cooperation and provincial government should have expressed commitment to the program, an important factor in facilitating local level cooperation. As the project evolves, additional mechanisms for improved coordination will be explored. Local leaders will be targeted for training and awareness building under the project. | Low |
| Possible delays in development and implementation of anti-POPs related policies and standards. | Broad consultations with relevant stakeholders were made during the NIP development and it is assumed that related administrations have kept in mind the requirements of the Convention for the establishment and modification of relevant policies and standards defined in the NIP. Furthermore, in the proposed project, some activities have been designed to push the relevant administrations to fit POPs requirements into their agendas and schedules, such as the meetings of the NCG to ensure adequate follow-up actions, various trainings and consultation meetings to keep the administrations informed about the updated and detailed requirements. | Low |
| Lack of ability to develop appropriate arrangements to attract national and international private investment or secure support for the development and implementation of public/private partnerships. | This risk is addressed through support of a study for co-financing the NIP implementation. Furthermore, the project will support the development and implementation of a technology transfer promotion centre to inform the private sector and NGOs of opportunities and to encourage their support. | Low |
| Difficulties of securing access to different sources of information within the public administration and private enterprises. | During the project implementation, a systemic plan for institutional strengthening for data collection, processing and reporting will be implemented; corresponding training and public awareness have been designed to support the implementation of this plan. | Modest |
| The possibility of inadequate and ineffective stakeholder participation. | The implementation of this project requires the willing participation of a broad range of stakeholders. During the NIP development, a wide partnership on POPs has been established through participation on the TCG meetings. This project will continue to support the partnership mechanism in order to mobilize the widest stakeholder participation. | Modest |
| Weak coordination and harmonization of the project with other capacity building activities that will be undertaken by other ongoing or potential projects. | All POPs projects are and will continue to be supervised by the CIO, which will ensure regular communications and timely information exchange among project owners, implementers and stakeholders. Furthermore, the consultation mechanism initiated by the project among international and national stakeholders will avoid overlapping capacity building activities among and between the on-going and potential projects. | Low |

| Potential Risks | Proposed Mitigation Measures | Rating |
|---|---|---|
| Low availability or weak accessibility to cost effective pesticide alternatives, PCB and waste disposal technologies, BAT/BEP | China is calling for economic restructuring, promotion of circular economy and establishment of innovation-oriented country. Opportunities exists where POPs concern could be integrated into programs for national environmental protection and scientific and technology development. The project has also designed the R&D tracking system and technology transfer promotion centre to encourage integrated activities. More specific technological issues will be addressed by other individual projects instead of this proposed project. | Modest |
| Government may not sustain its commitment to harmonize programs and budgets. | The project has designed activities to gain strong social support through awareness raising campaign and widespread education. Training and awareness raising will also specially target those trainees from media, national and local congress and social elites. | Modest |
| Insufficient project management capacities might lead to delays or restrict the achievement of full benefits of the project | A well defined project management system will be followed including the establishment and chair of NCG, selection of skilled individuals, implementation of a well-defined monitoring system and close supervision of UNIDO, in order to ensure effective and timely delivery of the proposed outputs. | Modest |
| Risk to climate change | The risk of the project for GHG emission is non-significant. In fact, the project helps to mitigate the GHG emission. At first, the project actively promotes best environmental practices with focus on waste segregation and reduction, thus reducing the energy consumption for disposing wastes. Second, it also contributes to build up conditions to accept in the country the Best Available Technologies that are characterized by clean and energy efficient technologies. | Low |
| Overall risk rating | | Modest |

***Sustainability, Replicability and Cost-effectiveness***

**Sustainability**

118. Sustainability implies not only the commitment of China and its development of a NIP that provides initiatives to mainstream the objectives of the Convention into the nation's broader development 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.

119. 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. It is expected that sustainability would be reached, characterised by the following:

- The obligations under the Convention are integrated into the existing environmental and chemicals management policies, national standards and guidelines accordingly.

- Enforcement capacities are strengthened and the requirements on management, inspection and supervision of POPs issues are taken into the routine tasks by relevant administrations.
- Relevant stakeholders are getting acquainted with the obligations of the Convention and are willing to take actions as required through various trainings.
- The established mechanism between CIO/SEPA and the main R&D financial sources for the purpose that the priority of the POPs R&D may be taken into consideration as the priority field of support.
- 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.
- A permanent platform established for technology transfer promotion.
- The information collection channels established for the chemicals listed in Annex A and B of the Convention.
- MIS in central level improved.
- POPs concept are integrated in the education at all levels from kindergarten to university, as well as in education of teachers.
- POPs issues come up from time to time in the public debate and participants from research, labour, industry and public interest have good access and knowledge to participate well in the debate.
- There is an active interplay with transfer of knowledge between the central level and provinces, regions and municipalities.
- There is, as far as practicable, interplay between the capacity building for POPs with capacity building for other environmental issues and for the nation's broader development policies and strategies.
- During the fourth year of this project, a manual on POPs Management and Control will be compiled to integrate the relevant policy, experiences and lessons gained during the implementation of this project, 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.

120. Nevertheless, it is recognized that capacity building and institutional strengthening proposed in this project could not cover all the scope of the capacity due to the complication of the measures on POPs control and the consequent development of the obligation under the Convention. For this reason, this project will help to develop and invite donor support for a proposal for the future capacity building programme, 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 assure the sustainability and continuous employment of locally recruited project personnel in order to continue their respective activities focusing on country-wide replication of project results and the Government will give commitment to keep them on payroll. With such an arrangement important institutional structures will also be sustainable.

**Replicability**

121. The project is attempting to improve the policy systems related to chemicals and pesticides with the requirements of POPs in mind. Meanwhile, it will strengthen the enforcement and implementation capacity at various levels. The approach and outputs achieved will be appropriate to replicate the management and control of other harmful chemicals and pesticides.

122. 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 and will be carried out through this project.

123. 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 3 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 that would eventually benefit other provinces of China.

124. The first stage of this programme is designed from 2007-2010. In some aspects it sets out to test capacity building approaches for selected provinces and sectors. This will be followed later by a stage where the modified approaches are replicated in all provinces and sectors.

125. The proposed project will be attempting to establish the pertinent capacity with regard to all the categories of POPs, including intentionally produced POPs, unintentionally produced POPs, POPs wastes and contaminate sites. In addition to introducing the actions, achievements and progress in the website as an important delivery of this project, a manual on POPs management and control will be compiled to integrate the policies and the experiences gained. 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.

126. Furthermore, 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.

**Cost-effectiveness**

127. This 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.

128. Furthermore, the project aims to enhance China's implementation of the Convention. The increased implementation capacity would reduce the risk of implementation failure, reducing the cost of implementation in comparison with the baseline scenario.

129. As mentioned above under *Possible risks*, there will be a large stress on project management capacity. Therefore an early and significant component will address Output 7 Institutional strengthening for decision-making and legislation enforcement. This is to emphasise the importance to both capacity building, in general, for effective and efficient management of the NIP implementation and specifically strengthen the capacity for effective and efficient management of the project implementation.

# SECTION D. INPUTS

## D.1. COUNTERPARTS INPUTS

***Incremental Cost and project financing***

130. The GEF, as the financial mechanism for the Stockholm Convention will provide a proposed budget of US$ 5,410,000 incremental cost funding for the project. The Government of China will contribute a cash contribution of US$ 6,625,000 and in-kind contribution of US$ 1,500,000 from local Chinese NGOs (THU and RCEES). Italy has committed US$ 1,500,000 as cash and in-kind contribution to the project.

***Baseline***

131. Under the Baseline Scenario and absence of this project, China would face a significant shortage of capacities 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

132. It is recognized that some of the above barriers will be partially addressed to varying extents by thematic projects within their scope. However, due to the cross-cutting nature of these barriers and the limited scope of thematic projects, not one or combination of thematic projects can remove all of them to a full extent. Without this project, various mechanisms to integrate the sparse resources of the Convention implementation may not be able to be established, and some innovative practices that help to achieve the quality goals of the NIP effectively and efficiently may not be demonstrated first and replicated later.

***Alternative***

133. With this project, China will be enabled to respond effectively to the capacity building articles of the Convention. The strengthened regulatory framework will upgrade the related standards of environmental quality, product quality, and POPs release to an internationally recognized level. The improved monitoring capacity will help to produce a more transparent inventory of POPs releases in China. The various mechanisms, platforms and partnerships to be established by this project will lay a fundamental basis for effective and efficient reduction and elimination of POPs in China and generate significant domestic and global benefits.

134. **Domestic benefits** of this project may include quicker and cheaper transition to:

- Increased competitiveness in the global market since products from China (food, industrial manufactured goods) will meet international standards with environmentally friendly alternatives for intentionally produced and used chemicals; these will reduce pollution to water, soil, organisms and ecosystems.
- Improved energy efficiency, reduced emission of $SO_2$, NOx $CO_2$ and other pollutants such as mercury, in the case of unintentional production.
- Spin-off effects concerning strong institutional management support, strengthening of environmental legal frameworks and environmental monitoring capacities for such actions.

135. China has one of the largest economies in the world with one of the fastest growing industrial productions. Although present release estimates are still uncertain, Chinese releases of POPs are likely to contribute to a significant and increasing part of the global releases. **Global benefits** may include more effective and efficient reduction and elimination of POPs that will reduce global harm to environment and human health.

***Summary Incremental Cost Matrix in US$***

| Output | Baseline | Alternative | Increment | |
|---|---|---|---|---|
| | | | GEF | Co-financing (Other Sources) |
| 1. A sound policy and regulatory framework | 1,400,000 | 2,440,000 | 740,000 | 300,000 |
| 2. Mechanisms and tools for financing | 320,000 | 760,000 | 340,000 | 100,000 |
| 3. Environmental monitoring | 300,000 | 1,470,000 | 420,000 | 750,000 |
| 4. Research and Development | 725,000 | 1,255,000 | 380,000 | 150,000 |
| 5. Technology transfer | 400,000 | 1,280,000 | 480,000 | 400,000 |
| 6. Institutional strengthening for data collection, processing and reporting | 910,000 | 1,490,000 | 580,000 | 0 |
| 7. Institutional strengthening for decision making and legislation enforcement | 780,000 | 1,910,000 | 630,000 | 500,000 |
| 8. Evaluation | 400,000 | 930,000 | 330,000 | 200,000 |
| 9. Public awareness | 320,000 | 1,110,000 | 490,000 | 300,000 |
| 10. Education | 260,000 | 970,000 | 410,000 | 300,000 |
| 11. Project management and M&E | 810,000 | 1,620,000 | 610,000[1] | 200,000 |
| **Total** | **6,625,000** | **15,235,000** | **5,410,000** | **3,200,000** |

## D.2. UNIDO INPUTS

136. UNIDO will provide an in-kind contribution of US$ 200,000 for managerial and technical oversight and supervision to project management, M&E and other costs of two senior and one junior UNIDO staff to be assigned at UNIDO Office Beijing to support project implementation.

[1] Project management represents $482,200 of this amount, or 9% of the total GEF contribution.

## SECTION E: BUDGET

### E.1 PROJECT BUDGET (GEF ONLY) IN US$

| Output | Budget line | Description | Year 1 | | Year 2 | | Year 3 | | Year 4 | | Year 5 | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | US$ | w/m | US$ | w/m | US$ | w/m | US$ | w/m | US$ | w/m | US$ | w/m |
| Output 1: Policy and regulatory framework | 11-50 | Short-term consultants (international) | 6,880 | 0.4 | 6,880 | 0.4 | 6,880 | 0.4 | 6,880 | 0.4 | 6,880 | 0.4 | 34,400 | 2.0 |
| | 15-00 | Project travel (international/national experts) | 2,000 | | 2,000 | | 2,000 | | 2,000 | | 2,000 | | 10,000 | |
| | 17-50 | National experts | 8,600 | 2.0 | 8,600 | 2.0 | 8,600 | 2.0 | 8,600 | 2.0 | 8,600 | 2.0 | 43,000 | 10.0 |
| | 21-00 | Subcontract on policy and regulatory framework | 140,000 | | 160,000 | | 160,000 | | 140,000 | | 50,000 | | 650,000 | |
| | 51-00 | Translation/printing | 500 | | 500 | | 500 | | 500 | | 600 | | 2,600 | |
| | ***Sub-total*** | | ***157,980*** | ***2.4*** | ***177,980*** | ***2.4*** | ***177,980*** | ***2.4*** | ***157,980*** | ***2.4*** | ***68,080*** | ***2.4*** | ***740,000*** | ***12.0*** |
| Output 2: Mechanisms and tools for financing | 11-50 | Short-term consultants (international) | 8,600 | 0.5 | 5,160 | 0.3 | 8,600 | 0.5 | 5,160 | 0.3 | 6,880 | 0.4 | 34,400 | 2.0 |
| | 15-00 | Project travel (international/national experts) | 2,000 | | 2,000 | | 2,000 | | 2,000 | | 2,000 | | 10,000 | |
| | 17-50 | National experts | 8,600 | 2.0 | 8,600 | 2.0 | 8,600 | 2.0 | 8,600 | 2.0 | 8,600 | 2.0 | 43,000 | 10.0 |
| | 21-00 | Subcontract on mechanisms and tools for financing | 30,000 | | 80,000 | | 80,000 | | 30,000 | | 30,000 | | 250,000 | |
| | 51-00 | Translation/printing | 600 | | 500 | | 500 | | 500 | | 500 | | 2,600 | |
| | ***Sub-total*** | | ***49,800*** | ***2.5*** | ***96,260*** | ***2.3*** | ***99,700*** | ***2.5*** | ***46,260*** | ***2.3*** | ***47,980*** | ***2.4*** | ***340,000*** | ***12.0*** |

| Output | Budget line | Description | Year 1 | | Year 2 | | Year 3 | | Year 4 | | Year 5 | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | US$ | w/m | US$ | w/m | US$ | w/m | US$ | w/m | US$ | w/m | US$ | w/m |
| Output 3: Environmental monitoring | 11-50 | Short-term consultants (international) | 8,600 | 0.5 | 5,160 | 0.3 | 8,600 | 0.5 | 5,160 | 0.3 | 6,880 | 0.4 | 34,400 | 2.0 |
| | 15-00 | Project travel (international/national experts) | 2,000 | | 2,000 | | 2,000 | | 2,000 | | 2,000 | | 10,000 | |
| | 17-50 | National experts | 8,600 | 2.0 | 8,600 | 2.0 | 8,600 | 2.0 | 8,600 | 2.0 | 8,600 | 2.0 | 43,000 | 10.0 |
| | 21-00 | Subcontract on monitoring | 40,000 | | 80,000 | | 75,000 | | 95,000 | | 40,000 | | 330,000 | |
| | 51-00 | Translation/printing | 500 | | 500 | | 500 | | 500 | | 600 | | 2,600 | |
| | ***Sub-total*** | | ***59,700*** | ***2.5*** | ***96,260*** | ***2.3*** | ***94,700*** | ***2.5*** | ***111,260*** | ***2.3*** | ***58,080*** | ***2.4*** | ***420,000*** | ***12.0*** |
| Output 4: Research and Development | 11-50 | Short-term consultants (international) | 6,880 | 0.4 | 6,880 | 0.4 | 6,880 | 0.4 | 6,880 | 0.4 | 6,880 | 0.4 | 34,400 | 2.0 |
| | 15-00 | Project travel (international/national experts) | 2,000 | | 2,000 | | 2,000 | | 2,000 | | 2,000 | | 10,000 | |
| | 17-50 | National experts | 8,600 | 2.0 | 8,600 | 2.0 | 8,600 | 2.0 | 8,600 | 2.0 | 8,600 | 2.0 | 43,000 | 10.0 |
| | 21-00 | Subcontract on research and development | 60,000 | | 80,000 | | 80,000 | | 50,000 | | 21,000 | | 291,000 | |
| | 51-00 | Translation/printing | 400 | | 400 | | 400 | | 200 | | 200 | | 1,600 | |
| | ***Sub-total*** | | ***77,880*** | ***2.4*** | ***97,880*** | ***2.4*** | ***97,880*** | ***2.4*** | ***67,680*** | ***2.4*** | ***38,680*** | ***2.4*** | ***380,000*** | 12.0 |
| Output 5: Technology transfer | 11-50 | Short-term consultants (international) | 6,880 | 0.4 | 6,880 | 0.4 | 6,880 | 0.4 | 6,880 | 0.4 | 6,880 | 0.4 | 34,400 | 2.0 |

| Output | Budget line | Description | Year 1 | | Year 2 | | Year 3 | | Year 4 | | Year 5 | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | US$ | w/m | US$ | w/m | US$ | w/m | US$ | w/m | US$ | w/m | US$ | w/m |
| | 15-00 | Project travel (international/national experts) | 2,000 | | 2,000 | | 2,000 | | 2,000 | | 2,000 | | 10,000 | |
| | 17-50 | National experts | 8,600 | 2.0 | 8,600 | 2.0 | 8,600 | 2.0 | 8,600 | 2.0 | 8,600 | 2.0 | 43,000 | 10.0 |
| | 21-00 | Subcontract on technology transfer | 80,000 | | 100,000 | | 100,000 | | 90,000 | | 20,000 | | 390,000 | |
| | 51-00 | Translation/printing | 500 | | 500 | | 500 | | 500 | | 600 | | 2,600 | |
| | ***Sub-total*** | | ***97,980*** | ***2.4*** | ***117,980*** | ***2.4*** | ***117,980*** | ***2.4*** | ***107,980*** | ***2.4*** | ***38,080*** | ***2.4*** | ***480,000*** | 12.0 |
| Output 6: Data collection, processing and reporting | 11-50 | Short-term consultants (international) | 6,880 | 0.4 | 6,880 | 0.4 | 6,880 | 0.4 | 6,880 | 0.4 | 6,880 | 0.4 | 34,400 | 2.0 |
| | 15-00 | Project travel (international/national experts) | 2,000 | | 2,000 | | 2,000 | | 2,000 | | 2,000 | | 10,000 | |
| | 17-50 | National experts | 8,600 | 2.0 | 8,600 | 2.0 | 8,600 | 2.0 | 8,600 | 2.0 | 8,600 | 2.0 | 43,000 | 10.0 |
| | 21-00 | Subcontract on data collection, processing and reporting | 100,000 | | 120,000 | | 120,000 | | 100,000 | | 50,000 | | 490,000 | |
| | 51-00 | Translation/printing | 600 | | 500 | | 500 | | 500 | | 500 | | 2,600 | |
| | ***Sub-total*** | | ***118,080*** | ***2.4*** | ***137,980*** | ***2.4*** | ***137,980*** | ***2.4*** | ***117,980*** | ***2.4*** | ***67,980*** | ***2.4*** | ***580,000*** | ***12.0*** |
| Output 7: Institutional strengthening for decision making and legislation enforcement | 11-50 | Short-term consultants (international) | 6,880 | 0.4 | 6,880 | 0.4 | 6,880 | 0.4 | 6,880 | 0.4 | 6,880 | 0.4 | 34,400 | 2.0 |

| Output | Budget line | Description | Year 1 | | Year 2 | | Year 3 | | Year 4 | | Year 5 | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | US$ | w/m | US$ | w/m | US$ | w/m | US$ | w/m | US$ | w/m | US$ | w/m |
| | 17-50 | National experts | 8,600 | 2.0 | 8,600 | 2.0 | 8,600 | 2.0 | 8,600 | 2.0 | 8,600 | 2.0 | 43,000 | 10.0 |
| | 21-00 | Subcontract on institutional strengthening | 100,000 | | 100,000 | | 100,000 | | 95,000 | | 65,000 | | 460,000 | |
| | 33-00 | Short-term trainings | 16,000 | | 16,000 | | 16,000 | | 16,000 | | 16,000 | | 80,000 | |
| | 51-00 | Translation/printing | 500 | | 600 | | 600 | | 500 | | 400 | | 2,600 | |
| | ***Sub-total*** | | ***133,980*** | ***2.4*** | ***134,080*** | ***2.4*** | ***134,080*** | ***2.4*** | ***128,980*** | ***2.4*** | ***98,880*** | ***2.4*** | ***630,000*** | ***12.0*** |
| Output 8: Evaluation | 11-50 | Short-term consultants (international) | 6,880 | 0.4 | 6,880 | 0.4 | 6,880 | 0.4 | 6,880 | 0.4 | 6,880 | 0.4 | 34,400 | 2.0 |
| | 15-00 | Project travel (international/national experts) | 2,000 | | 2,000 | | 2,000 | | 2,000 | | 2,000 | | 10,000 | |
| | 17-50 | National experts | 8,600 | 2.0 | 8,600 | 2.0 | 8,600 | 2.0 | 8,600 | 2.0 | 8,600 | 2.0 | 43,000 | 10.0 |
| | 21-00 | Subcontract on evaluation and follow-up | 50,000 | | 65,000 | | 65,000 | | 50,000 | | 11,000 | | 241,000 | |
| | 51-00 | Translation/printing | 200 | | 400 | | 400 | | 400 | | 200 | | 1,600 | |
| | ***Sub-total*** | | ***67,680*** | ***2.4*** | ***82,880*** | ***2.4*** | ***82,880*** | ***2.4*** | ***67,880*** | ***2.4*** | ***28,680*** | ***2.4*** | ***330,000*** | ***12.0*** |
| Output 9: Public awareness | 11-50 | Short-term consultants (international) | 6,880 | 0.4 | 6,880 | 0.4 | 6,880 | 0.4 | 6,880 | 0.4 | 6,880 | 0.4 | 34,400 | 2.0 |
| | 15-00 | Project travel (international/national experts) | 2,000 | | 2,000 | | 2,000 | | 2,000 | | 2,000 | | 10,000 | |
| | 17-50 | National experts | 8,600 | 2.0 | 8,600 | 2.0 | 8,600 | 2.0 | 8,600 | 2.0 | 8,600 | 2.0 | 43,000 | 10.0 |

| Output | Budget line | Description | Year 1 | | Year 2 | | Year 3 | | Year 4 | | Year 5 | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | US$ | w/m | US$ | w/m | US$ | w/m | US$ | w/m | US$ | w/m | US$ | w/m |
| | 21-00 | Subcontract on public awareness | 80,000 | | 100,000 | | 100,000 | | 100,000 | | 20,000 | | 400,000 | |
| | 51-00 | Translation/printing | 500 | | 500 | | 600 | | 500 | | 500 | | 2,600 | |
| | ***Sub-total*** | | ***97,980*** | ***2.4*** | ***117,980*** | ***2.4*** | ***118,200*** | ***2.4*** | ***117,980*** | ***2.4*** | ***37,980*** | ***2.4*** | ***490,000*** | ***12.0*** |
| Output 10: Education | 11-50 | Short-term consultants (international) | 5,160 | 0.3 | 5,160 | 0.3 | 5,160 | 0.3 | 5,160 | 0.3 | 5,160 | 0.3 | 25,800 | 1.5 |
| | 15-00 | Project travel (international/national experts) | 2,000 | | 2,000 | | 2,000 | | 2,000 | | 2,000 | | 10,000 | |
| | 17-50 | National experts | 8,600 | 2.0 | 8,60 | 2.0 | 8,600 | 2.0 | 8,600 | 2.0 | 8,600 | 2.0 | 43,000 | 10.0 |
| | 21-00 | Subcontract on education | 60,000 | | 85,000 | | 85,000 | | 75,000 | | 24,000 | | 329,000 | |
| | 51-00 | Translation/printing | 400 | | 500 | | 500 | | 400 | | 400 | | 2,200 | |
| | ***Sub-total*** | | ***76,160*** | ***2.3*** | ***101,260*** | ***2.3*** | ***101,260*** | ***2.3*** | ***91,160*** | ***2.3*** | ***40,160*** | ***2.3*** | ***410,00*** | ***11.5*** |
| Output 11: Project management and monitoring and evaluation | 11-01 | Chief Technical Advisor | 20,640 | 1.2 | 20,640 | 1.2 | 20,640 | 1.2 | 20,640 | 1.2 | 20,640 | 1.2 | 103,200 | 6.0 |
| | 11-50 | Short-term consultants (international) | | | | | 17,200 | 1.0 | | | 43,000 | 2.5 | 60,200 | 3.5 |
| | 13-00 | Administrative support | 22,000 | | 42,000 | | 42,000 | | 42,000 | | 5,650 | | 153,650 | |
| | 15-00 | Project travel (international/national experts) | 3,000 | | 3,000 | | 3,000 | | 3,000 | | 2,000 | | 14,000 | |
| | 17-01 | National Project Manager | 5,590 | 1.3 | 5,590 | 1.3 | 5,590 | 1.3 | 5,590 | 1.3 | 5,590 | 1.3 | 27,950 | 6.5 |

| Output | Budget line | Description | Year 1 | | Year 2 | | Year 3 | | Year 4 | | Year 5 | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | US$ | w/m | US$ | w/m | US$ | w/m | US$ | w/m | US$ | w/m | US$ | w/m |
| | 17-50 | National experts | 25,800 | 6.0 | 25,800 | 6.0 | 43,000 | 10.0 | 25,800 | 6.0 | 43,000 | 10.0 | 163,400 | 38.0 |
| | 35-00 | Workshops/meetings | 15,000 | | 12,000 | | 10,000 | | 10,000 | | 10,600 | | 57,600 | |
| | 45-00 | Equipment | 20,000 | | | | | | | | | | 20,000 | |
| | 51-00 | Translation/printing | 2,000 | | 2,000 | | 2,000 | | 2,000 | | 2,000 | | 10,000 | |
| | ***Sub-total*** | | ***114,030*** | ***8.5*** | ***111,030*** | ***8.5*** | ***143,430*** | ***13.5*** | ***110,000*** | ***8.5*** | ***131,510*** | ***15.0*** | ***610,000*** | ***54.0*** |
| **TOTAL PROJECT COSTS** | | | ***1,051,250*** | ***32.6*** | ***1,271,570*** | ***32.2*** | ***1,305,950*** | ***37.6*** | ***1,125,140*** | ***32.2*** | ***656,090*** | ***38.9*** | ***5,410,000*** | ***173.5*** |

## E.2 CO-FINANCING BUDGET BY ACTIVITY (IN US$)

| Output | Activity | Co-finance (US$) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | UNIDO | MOF | SEPA | THU | RCESS | Italy | TOTAL |
| Output 1: Policy and regulatory framework | Activity 1.1 Provide suggestions to the establishment or amendment of the laws and regulations | | 60,000 | | | | | 60,000 |
| | Activity 1.2 Draft National Administrative Rules on POPs Reduction and Control | | 60,000 | | | | | 60,000 |
| | Activity 1.3 Incorporate the Convention requirement defined in NIP into the first 3 POPs policies in Tier 3 | | 60,000 | 40,000 | | | | 100,000 |
| | Activity 1.4 Develop or revise the 30 technical policies, guidelines, standards by the time defined in the NIP | | 300,000 | 800,000 | | | 300,000 | 1,400,000 |
| | Activity 1.5 Promulgate and make into effect Administrative Regulations on POPs Reduction and Control in three demonstration provinces | | | 80,000 | | | | 80,000 |
| **Sub-total** | | **0** | **480,000** | **920,000** | **0** | **0** | **300,000** | **1,700,000** |
| Output 2: Mechanisms and tools for financing | Activity 2.1 Identify the principal stakeholders | | 30,000 | | | | | 30,000 |
| | Activity 2.2 Determine the principles and mechanism for the responsibility sharing | | 60,000 | | | | | 60,000 |
| | Activity 2.3 Explore public-private partnerships | | 50,000 | | | | 50,000 | 100,000 |
| | Activity 2.4 Develop the strategy on co-financing mechanism | | 50,000 | | | | 50,000 | 100,000 |
| | Activity 2.5 Hold fund raising workshops by inviting key stakeholders at home and abroad | | 50,000 | | | | | 50,000 |
| | Activity 2.6 Implement the strategy in one of the demonstration provinces | | 80,000 | | | | | 80,000 |
| | | **0** | **320,000** | **0** | **0** | **0** | **100,000** | **420,000** |
| Output 3: Environmental monitoring | Activity 3.1 Develop a unified monitoring program | | | 50,000 | | 30,000 | | 80,000 |
| | Activity 3.2 Organize national training on monitoring of pesticide POPs and PCBs in environmental samples | | | 30,000 | | 120,000 | | 150,000 |

| | Activity | Co-finance (US$) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | UNIDO | MOF | SEPA | THU | RCESS | Italy | TOTAL |
| Output 3: | Activity 3.3 Organize training for the existing dioxins monitoring laboratories | | 50,000 | 50,000 | | 200,000 | | 300,000 |
| | Activity 3.4 Organize a national training on monitoring of pesticide POPs and PCBs in human samples | | 20,000 | | | 100,000 | | 120,000 |
| | Activity 3.5 Organize inter-laboratory comparisons and calibrations | | | 100,000 | | 300,000 | | 400,000 |
| **Sub-total** | | **0** | **70,000** | **230,000** | **0** | **750,000** | **0** | **1,050,000** |
| **Output 4: Research and Development** | Activity 4.1 Establish the coordination mechanism between CIO/SEPA and the main R&D financial sources | | 50,000 | 80,000 | 70,000 | | | 200,000 |
| | Activity 4.2 Regularly evaluate the progress of national R&D activities | | 50,000 | 90,000 | 80,000 | | | 220,000 |
| | Activity 4.3 Establish an incentive program for promoting R&D results | | 200,000 | 195,000 | | | | 395,000 |
| | Activity 4.4 Promote the exchange and communication of R&D progresses | | | 60,000 | | | | 60,000 |
| **Sub-total** | | **0** | **300,000** | **425,000** | **150,000** | **0** | **0** | **875,000** |
| **Output 5: Technology transfer** | Activity 5.1 Establish an assistance-oriented Technology Transfer Promotion Center | | 70,000 | 20,000 | 160,000 | | | 250,000 |
| | Activity 5.2 Enable the center to work as a technology information clearinghouse | | 80,000 | 20,000 | 100,000 | | | 200,000 |
| | Activity 5.3 Provide enterprises with assistance in optimizing the technical and engineering design | | 40,000 | 20,000 | 60,000 | | | 120,000 |
| | Activity 5.4 Establish a technological coordination and cooperation platform | | 50,000 | 50,000 | 50,000 | | | 150,000 |
| | Activity 5.5 Evaluate the barriers in technology transfer and propose the instruments to remove the barriers for continuous improvement | | | 50,000 | 30,000 | | | 80,000 |
| **Sub-total** | | **0** | **240,000** | **160,000** | **400,000** | **0** | **0** | **800,000** |

| Output | Activity | Co-finance (US$) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | UNIDO | MOF | SEPA | THU | RCESS | Italy | TOTAL |
| **Output 6: Data collection, processing and reporting** | Activity 6.1 Identify the needs of information | | 50,000 | | | | | 50,000 |
| | Activity 6.2 Strengthen the integration of the information | | 60,000 | | | | | 60,000 |
| | Activity 6.3 Establish information collection channels for the chemicals included in Annex A and B | | 150,000 | | | | | 150,000 |
| | Activity 6.4 Establish and implement the procedures for information collection on UP POPs | | 50,000 | 300,000 | | | | 350,000 |
| | Activity 6.5 Analyze and disseminate information mainly through the website of the POPs information center | | 10,000 | 290,000 | | | | 300,000 |
| **Sub-total** | | **0** | **320,000** | **590,000** | **0** | **0** | **0** | **910,000** |
| **Output 7: Institutional strengthening for decision making and legislation enforcement** | Activity 7.1 Strengthen the coordination of NCG and support its decision-making | | | 100,000 | | | 100,000 | 200,000 |
| | Activity 7.2 Establish 3 Local Convention Implementation Units and develop their provincial implementation plans (PIP) | | 150,000 | | | | 150,000 | 300,000 |
| | Activity 7.3 Training the environmental protection departments at the central, regional, and local levels | | | 100,000 | | | 80,000 | 180,000 |
| | Activity 7.4 Launch joint inspections to inspect the compliance of the key POPs producing and releasing enterprises; | | 200,000 | 150,000 | | | | 350,000 |
| | Activity 7.5 Instigate NGOs, third-party environmental certificating and auditing institutions, and individuals to supervise POPs management | | 50,000 | | | | 50,000 | 100,000 |
| | Activity 7.6 Establish and strengthen self-policing and supervision | | 30,000 | | | | 120,000 | 150,000 |
| **Subtotal** | | **0** | **430,000** | **350,000** | **0** | **0** | **500,000** | **1,280,000** |
| **Output 8: Evaluation** | Activity 8.1 Establish a working team for evaluation | | 60,000 | | | | | 60,000 |
| | Activity 8.2 Train the evaluation staff | | 20,000 | | | | 80,000 | 100,000 |
| | Activity 8.3 Evaluate the results and impacts of the NIP implementation | | 60,000 | 140,000 | | | 100,000 | 300,000 |

| | Activity | Co-finance (US$) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | UNIDO | MOF | SEPA | THU | RCESS | Italy | TOTAL |
| Output 8: | Activity 8.4 Further assess the capacity needs for the Convention implementation | | | 60,000 | | | 20,000 | 80,000 |
| | Activity 8.5 Hold a workshop to discuss and disseminate the evaluation findings | | 60,000 | | | | | 60,000 |
| **Sub-total** | | **0** | **200,000** | **200,000** | **0** | **0** | **200,000** | **600,000** |
| **Output 9: Public awareness** | Activity 9.1 Establish a platform for effective POPs information distribution | | 80,000 | | | | | 80,000 |
| | Activity 9.2 Establish partnerships with on-going environmental awareness promotion programmes | | 80,000 | | | | | 80,000 |
| | Activity 9.3 Make materials for raising public awareness of POPs issues | | | | 30,000 | | 150,000 | 180,000 |
| | Activity 9.4 Distribute POPs information | | 80,000 | | 20,000 | | 60,000 | 160,000 |
| | Activity 9.5 Implement a special programme for public awareness promotion | | 80,000 | | | | 40,000 | 120,000 |
| **Subtotal** | | **0** | **320,000** | **0** | **50,000** | **0** | **250,000** | **620,000** |
| **Output 10: Education** | Activity 10.1 Study the related education curriculum | | 30,000 | | | | | 30,000 |
| | Activity 10.2 Prepare textbook and training materials and train university teachers | | 80,000 | | | | 40,000 | 120,000 |
| | Activity 10.3 Prepare textbook and training materials and train primary and middle school teachers | | 80,000 | | | | 40,000 | 120,000 |
| | Activity 10.4 Carry out demonstrations of POPs education | | 50,000 | | 90,000 | | 10,000 | 150,000 |
| | Activity 10.5 Design and implement an on-line POPs education programme | | | | 60,000 | | 40,000 | 100,000 |
| | Activity 10.6 Organize training workshops for mayors of cities | | 20,000 | | | | 20,000 | 40,000 |
| **Subtotal** | | **0** | **260,000** | **0** | **150,000** | **0** | **150,000** | **560,000** |

| Output | Activity | Co-finance (US$) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | UNIDO | MOF | SEPA | THU | RCESS | Italy | TOTAL |
| **Output 11: Project management, monitoring & evaluation and follow-up** | Activity 11.1 Establish the national project management office | | 120,000 | | | | | 120,000 |
| | Activity 11.2 Establish 3 local convention implementation units | | 200,000 | | | | | 200,000 |
| | Activity 11.3 Establish a national coordination group | | 40,000 | | | | | 40,000 |
| | Activity 11.4 Recruit and sustain employment of national experts and subcontractors | | 250,000 | | | | | 250,000 |
| | Activity 11.5 Prepare annual implementation plans and reports | | 40,000 | | | | | 40,000 |
| | Activity 11.6 Prepare and hold meetings of the Technical Coordination Group | | 60,000 | | | | | 60,000 |
| | Activity11.7 Designate a project focal point within UNIDO | 200,000 | | | | | | 200,000 |
| | Activity 11.8 Conduct Project implementation reviews | | 100,000 | | | | | 100,000 |
| | Activity 11.9 Provide independent management and financial reviews | | | | | | | |
| | **Subtotal** | **200,000** | **810,000** | **0** | **0** | **0** | **0** | **1,010,000** |
| **GRAND TOTAL** | | **200,000** | **3,750,000** | **2,875,000** | **750,000** | **750,000** | **1,500,000** | **9,825,000** |

## SECTION F: MONITORING AND EVALUATION, REPORTING AND LESSONS LEARNED

137. The project management office and the project's UNIDO focal point will develop criteria for participatory monitoring of the project activities. Appropriate participatory mechanism and methodology for performance monitoring and evaluation will be established at the very outset of the project. Monitoring and Evaluation (M&E) activities will be based on the Logical Framework Matrix. The overall M&E format for the project will follow the instructions and guidelines of the GEF M&E unit and will be laid out in detail at the Inception Workshop.

138. In accordance with the GEF requirements, Quarterly Progress Reports will also be provided to GEF during the course of the project. Table 6 provides simplified impact indicators with baselines, targets, means of verification, sampling frequency and location for selected indicators. These indicators will form the basis for the project's M&E system.

139. In particular, SEPA, as the national implementing agency, will be responsible for the preparation and submission of the following reports:

Project Inception Workshop Report (PIWR)

The inception report will be prepared no later than three months after the project start-up. The report will include a detailed Annual Workplan with clear indicators and corresponding means of verification for the first year of the project, fine tuning of Terms of Reference (ToRs) for project professionals, ToR for subcontract services, progress to date on project establishment and start up activities, amendments to project activities/approaches, if any. The report will be submitted to GEF.

Annual Project Report (APR) / Project Implementation Report (PIR)

APR/PIR in a prescribed format will be prepared and submitted annually by the project management as per guidelines set for the same. APR/PIR will inform the TriPartite Review (TPR) at the annual National Coordination Group meetings and should therefore be circulated to TPR/NCG participants well in advance. Final APR/PIR will be submitted to GEF as per standard procedures.

140. UNIDO will arrange an independent international terminal evaluation of the project according to Monitoring and Evaluation procedures established by the GEF.

141. The project's indicative M&E workplan is shown in Table 5 below.

**Table 5: Indicative M&E workplan**

| Item | Responsible | Budget (US$) | Time |
|---|---|---|---|
| Progress reports and financial statement | PMO | 60,000 | Refer to the Agreement between UNIDO and SEPA for project execution |
| PIRs | PMO and UNIDO focal point | 80,000 | Annual |
| Report of the Annual Review meeting | UNIDO focal point | (UNIDO) | Annual |
| Mid-term review report | UNIDO focal point | (UNIDO) | After two years of the start of the project |
| Terminal evaluation report | Independent expert | (Included in PIR cost) | At the end of the project |
| Financial audit report | Independent audit firm | 30,000 | At the end of the project |
| **TOTAL indicative COST** *Excluding project team staff time and UNIDO staff and travel expenses* | | **170,000** | |

**Table 6: Selected indicators**

| Key Impact Indicator | Baseline | Target (at Year 4) | Means of Verification | Sampling frequency | Location |
|---|---|---|---|---|---|
| Number of new laws/regulations | 0 | 21 | Review Table 2 of Project Brief | End of each year | Central level |
| Number of new administrative rules | 0 | 11 | Review Table 2 of Project Brief | End of each year | Central level |
| Number of new policies/guidelines/standards | 0 | 33 | Review Table 2 of Project Brief | End of each year | Central level |
| Number of new advanced provincial regulations for POPs reduction and elimination | 0 | To be determined year 1 | Review agreement from first year | Year 3 and 4 | 3 demonstration provinces |
| Group of monitoring stations and laboratories capable of undertaking standardized POPs monitoring: | | | For all: Capacity improvement shown in the results of new sampling and analyses. Report on the results of cross-laboratory inter comparisons and calibration | | |
| - existing environmental monitoring centres/ laboratories network | To be determined Year 1 | 265 | | Year 4 | Mainly 3 demonstration provinces |
| - laboratories for dioxin monitoring | To be determined Year 1 | 13 | | Year 4 | Across China |
| Centre for Disease Control and Prevention (CDC) laboratories for POPs related health monitoring | To be determined Year 1 | 33 | | Year 4 | Across China |
| Convention compliance requirements mainstreamed into existing environmental protection instruments | As described in the NIP | All requirements transferred | Second national report on Convention implementation | Year 2010 | Central level |

| Key Impact Indicator | Baseline | Target (at Year 4) | Means of Verification | Sampling frequency | Location |
|---|---|---|---|---|---|
| No. of specialized organizations established, (provincial CIOs, information centre, service-oriented Technology Transfer Promotion Centre) | 0 | 5 | Annual Project Report | Each year | Central and 3 demonstration provinces |
| No. of enterprises trained | 0 | 100 | Annual Project Report | Each year | Central and 3 demonstration provinces |
| No. of individuals being trained | 0 | 800 | Annual Project Report | Each year | Central and 3 demonstration provinces |
| 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. | Performance to be addressed | Perceived by stakeholders as providing good opportunities for information and dialogue | Evaluation Report | Year 0, 2 and 4 | Central level |
| Percentage of the population in high-risk POPs exposure areas aware of the need for protective action | Near 0 | 60 | Survey report on the percentage that is aware | Year 2 and 4 | Selected key areas |
| No. of reports on relevant financing tools | To be determined Year 1 | To be determined Year 1 | Annual Project Report | Each year | Central and some provincial |
| No. of workshops and consultations on relevant financing tools | To be determined Year 1 | To be determined Year 1 | Annual Project Report | Each year | Central and some provincial |

***Lessons Learned***

142. Within the overall framework of the Stockholm Convention implementation, the most extensive experience has been accumulated from the project for the development of the NIP and its subprojects, as shown in the Table 7 below:

**Table 7: Lessons learned from the NIP development**

| Lesson | Comments | Impact on the design of the SIRE project |
|---|---|---|
| There could have been more careful and realistic planning | Drafting was often delayed and made under extreme pressure | Project management specialists will be allocated to the project |
| Resources and tasks should be matched | There have been many comments that the budgets are underestimated | A special review of the budget allotments will be done before the Project Document is finalised, and priorities set to achieve a better match between tasks and budgets |
| The necessity of strong stakeholder support from all levels for a successful project | There was too little time for dialogue with some industries, researchers e.g. in social sciences and public interest organisations | The design of stakeholder participation will be changed to encompass initial workshops involving a broader range of stakeholders |
| Continual efforts to foster and maintain working relationships between all project participants is necessary | Participants represented a wide range of competences and interests and some participants provided crucial information at a late stage | Early workshops on management and on information and communication will also foster a common approach and spirit |
| Strong technical and administrative personnel are keys to a successfully implemented project | Internal capacity building within CIO and the project management staff should be strengthened | Some capacity building efforts are specially designed to this end. |

143. Outputs 6, 7 and 8 deal with establishing a good management system for the NIP implementation. The experiences from these outputs will continuously be shared with the project management for the proposed project. Similarly, the experiences from other projects being implemented such as PCBs, chlordane and mirex, antifouling, medical waste and the like will be followed.

## SECTION G: PRIOR OBLIGATIONS AND PREREQUISITES

144. The Project Document will be signed by UNIDO and the Government of the People's Republic of China. GEF assistance will be provided subject to UNIDO being satisfied that the obligations and pre-requisites listed below have been fulfilled or are likely to be fulfilled. When fulfilment of one or more of these prerequisites fails to materialize, UNIDO may, at its discretion, either suspend or terminate its assistance.

### G.1 Prior to Project Effectiveness

145. Legally binding co-financing agreements are signed for the private/public sector participation in the project.

### G.2 During project implementation

146. Annual Project Implementation Review report and Report of the Annual Review meeting prepared. The workplan and consequently the project budget will be updated annually.

## SECTION H: LEGAL CONTEXT

147. The project document shall be the instrument referred to the Standard Basic Agreement between the Government of the People's Republic of China and UNIDO. The project objectives shall be in line with the objectives of the Policies of the Government of the People's Republic of China.

148. The following types of revisions may be made to this Project Document with the signature of the Project Manager, provided he or she is assured that the other signatories of the Project Document have no objection to the changes as follows:

- Revision in, or addition of, any of the annexes of the Project Document; and
- Revisions that do not involve significant changes in the immediate subcomponents, objectives, outcomes or activities of the project, but are caused by rearrangement of the inputs already agreed to or by cost increases due to inflation.

ANNEXES:

ANNEX A: PROJECT LOGICAL FRAMEWORK

ANNEX B: LINKAGES OF SIRE TO NIP

ANNEX C: TERMS OF REFERENCE FOR INTERNATIONAL EXPERTS

ANNEX D: TERMS OF REFERENCE FOR SUBCONTRACTS

## ANNEX A: PROJECT LOGICAL FRAMEWORK

| Intervention Logic | Objectively Verifiable Indicators | Sources of Verification | Assumptions and Risks |
|---|---|---|---|
| ***Overall objective*** | | | |
| Effective and efficient implementation of SC&NIP<br><br>Improved awareness and education on POPs | Steady and smooth progresses in SC compliance and NIP implementation reflected by the following indicators:<br>➢ Number of new laws/regulations (baseline: 0; target: 21)<br>➢ Number of new administrative rules (baseline: 0; target: 31)<br>➢ Number of new policies /guidelines/standards (baseline: 0; target: 33)<br>➢ Number of new advanced provincial regulations for POPs reduction and elimination (baseline: 0; target: to be determined in year 1)<br>➢ No. of existing environmental and health monitoring centres trained (baseline:0, target: 311)<br>➢ No. of specialized organizations established, (provincial CIOs, information centre, service-oriented Technology Transfer Promotion Centre) (baseline: 0; target: 5)<br>➢ No. of enterprises trained (baseline: 0; target: 100)<br>➢ No. of individuals trained (baseline: 0; target: 800)<br>➢ Percentage of the population in high-risk POPs exposure areas aware of the need for protective action (baseline: nearly 0; target: 60) | Performance appraisal reports for SC compliance and NIP implementation<br><br>Project progress reports by evaluations | The leading role of NCG among ministries continues to play its function<br><br>Enduring and effective Government support in base line funding can be secured<br><br>Local governments are willing to support the anti-POPs related initiatives through their own resources |

| Intervention Logic | Objectively Verifiable Indicators | Sources of Verification | Assumptions and Risks |
|---|---|---|---|
| ***Outcome 1: Strengthened systematic capacity for more effective implementation of the Stockholm Convention and NIP*** | | | |
| *Output 1*. A sound policy and regulatory framework<br>*Output 2*. Mechanisms and tools for financing | ➢ A basic enabling environment for SC compliance and NIP implementation built up via establishing a more sound regulatory framework<br>➢ Numbers of monitoring stations or laboratories capable of undertaking qualified and standardized POPs monitoring<br>➢ Developing a clear roadmap for co-financing the NIP implementation | ➢ Legislative pieces and technical policies, guidelines, standards<br>➢ Reports of successful cases in demonstration provinces for legislation against POPs<br>➢ Workshops held for co-financing forum, and final report on co-financing NIP implementation | ➢ The overall willingness of participating provinces are high and the three demonstration provinces can be selected in terms of legislation development and testing.<br>➢ Local leaders, especially those in demonstration provinces support the enabling environment initiatives |
| **Output 1. Sound policy and regulatory framework** | | | |
| 1.1 Proposed legislation | ➢ Proposed new or revised legislation submitted to relevant government agencies for consideration | ➢ Workshop reports, reports for policy recommendations, consultation reports with relevant stakeholders, formal suggestive bills to relevant government agencies or legislative bodies | ➢ Government endorses NIP |
| 1.2 Draft National Administrative Rules on POPs Reduction and Control. | ➢ Draft completed and intensive consultations conducted with stakeholders | ➢ Completed draft and the relevant reports for consultations with stakeholders | ➢ Government supports the preparation of the administrative roles |
| 1.3 Industrial policy adjustment | ➢ Suggestions submitted to relevant government agencies for consideration<br>➢ Consultation among stakeholders completed | ➢ National industry development polices including the initiatives<br>➢ Relevant official reports supporting the initiatives<br>➢ Workshops and consultation reports | ➢ Communication and cooperation among relevant national agencies |
| 1.4 Develop or revise the 33 technical policies, guidelines, standards | ➢ Drafts for technical polices, guidelines and standards | ➢ Workshops reports, consultation reports, formal draft texts, and relevant national endorsements | ➢ Management and coordination capacity in place and a strong technical expert advisory group in place |

| Intervention Logic | Objectively Verifiable Indicators | Sources of Verification | Assumptions and Risks |
|---|---|---|---|
| 1.5 Strengthen POPs legislation in demo province | ➢ POPs-related regulations in demo-provinces developed or promulgated | ➢ Workshops reports, consultation reports, formal draft texts, and relevant provincial endorsements | ➢ Sustained Provincial government commitment |
| **Output 2: Mechanisms and financing tools** | | | |
| 2.1 Identify principal stakeholders | ➢ Financial roles and responsibilities of stakeholders determined | ➢ Reports on principles and guidelines for co-financing<br>➢ Reports on results of consultation among stakeholder<br>➢ Workshops held and reported upon | ➢ Stakeholders willing to participate |
| 2.2 Determine the principles and mechanism for responsibility sharing among stakeholders for different types of activities, e.g. non-profitable and profitable activities | ➢ Market oriented mechanisms identified and relevant legislation and institutional strengthening requirements recommended<br>➢ Principles and mechanisms determined for non-profitable activities | ➢ Principles and rules for mobilizing co-finance established and shown in relevant reports<br>➢ Clear definitions for the activities to be co-financed by government<br>➢ Reports on the other relevant workshops and consultations | ➢ Consensus can be reached regarding profitable and non-profitable classification |
| 2.3 Explore public-private partnerships to involve private sectors | ➢ Suggestions and recommendations to remove barriers to market oriented operations, with special emphasis on BAT and BEP | ➢ Incentives, risks, and reasonable rate of return discussed and shown in relevant reports<br>➢ Workshop minutes<br>➢ Consultation reports<br>➢ Suggestions and recommendations to relevant government agencies | ➢ Investment opportunities exist or could exist<br>➢ Opinions from different interest group could be harmonized |
| 2.4 Develop a strategy for co-financing the implementation of Convention and NIP | ➢ Strategy report | ➢ Strategy report<br>➢ Other reports from workshops and consultations | ➢ Government willing to consider suggestions on the strategy |

| Intervention Logic | Objectively Verifiable Indicators | Sources of Verification | Assumptions and Risks |
|---|---|---|---|
| 2.5 Fund raising workshop by inviting key stakeholders in the country and abroad | ➢ Workshop(s) held | ➢ Workshop reports | ➢ Stakeholders willing to participate |
| 2.6 Implement strategy in demonstration province(s) and launch replication of results | ➢ Agreement with demo province(s)<br>➢ Implementation of demonstration<br>➢ Reported case study and results | ➢ The agreement with the local government(s)<br>➢ Reports on the progress of the demonstration in terms of policy development, incentives, and the public-private partnerships<br>➢ Reports on the successful cases | ➢ Support and commitment from demonstration provinces<br>➢ Local support on resources |
| ***Outcome 2: Strengthened capacity of institutions for efficient implementation of the Stockholm and NIP*** | | | |
| *Output 3*. Environmental monitoring<br>*Output 4*. Research and Development<br>*Output 5*. Technology transfer promotion centre<br>*Output 6*. Institutional strengthening of data collection, processing and reporting | ➢ Building up a basic and preliminary infrastructure for NIP implementation in Monitoring, R&D and Technology transfer promotion<br>➢ Requirements of SC and COP for data collection, processing and reporting are met | ➢ Training materials and training workshops for monitoring<br>➢ A technology transfer promotion centre in place supporting public and private participation for technology cooperation and assistance | ➢ Government commitment is crucial<br>➢ Relevant fund is available |
| *Output 7*. Institutional strengthening of decision-making and the coordination and enforcement of policy and/or legislation.<br>*Output 8*. Institutional strengthening of evaluation and follow-up | ➢ A fully computer based functional POPs MIS that meets evaluation and reporting requirements and support decision making<br>➢ The capacity of NCG&CIO improved;<br>➢ NAC established and plays its function;<br>➢ Responsibilities for the implementation of NIP to provincial level; | ➢ The qualified reports to meet the requirements of SSC and COP,<br>➢ A well functioning MIS<br>➢ Documentation series of the POPs MIS expanded and upgraded<br>➢ The progress report of NCG, CIO and NAC,<br>➢ The Concrete plans for NIP Implementation in three demonstration provinces | ➢ Smooth coordination and cooperation among government agencies for information sharing and evaluation;<br>➢ Data can be available, and the hardware and software configuration of the prototype management information system can be extended to accommodate all necessary data |

| Intervention Logic | Objectively Verifiable Indicators | Sources of Verification | Assumptions and Risks |
|---|---|---|---|
| | ➢ The application of existing environment protection instruments to meet the obligations of the Convention at central and local level;<br>➢ Enterprise self-policing practices for voluntary elimination and reduction of POPs encouraged and provided with incentive measures.<br>➢ An evaluation oriented institutional capacity to meet the requirements of the Convention for performance appraisal and the requirements for continuous improvement in NIP implementation is built up | ➢ The adaptation of EIA, Cleaner production practices and other environmental protection instruments to meet anti-POPs requirements; with relevant reports<br>➢ Disciplines for enterprise's self-policing developed and experiences dissimilated, results shown in relevant reports.<br>➢ All relevant evaluation reports to meet the requirements of the relevant stakeholders including SSC, COP, GEF, government agencies and etc. | |
| ***Outcome3: Strengthening for environmental monitoring*** | | | |
| 3.1 Develop a unified monitoring program for monitoring of POPs in environmental and human samples | ➢ Effectiveness evaluation for monitoring program | ➢ Evaluation report(s) | ➢ Stakeholders willing to participate |
| 3.2 Organize national training on monitoring of pesticide POPs and PCBs for local professionals | ➢ Improved monitoring capacity of trainees | ➢ The developed training materials<br>➢ Report/reports for training workshops<br>➢ Number of trainees from the municipal and county environmental monitoring stations<br>➢ Capacity improvement shown in the results of new sampling and analyses | ➢ The trainees could be motivated to attend workshop. |

| Intervention Logic | Objectively Verifiable Indicators | Sources of Verification | Assumptions and Risks |
|---|---|---|---|
| 3.2 Organize training for existing dioxins monitoring laboratories on pre-treatment and monitoring of dioxins in sources and environmental and human samples; | ➢ Improved monitoring capacity of trainees | ➢ Developed training materials<br>➢ Training workshop report(s)<br>➢ Number of participants in existing dioxin monitoring labs receiving training on dioxin analyses relevant to environmental and human samples<br>➢ Capacity improvement shown in the results of new sampling and analyses | ➢ Laboratories willing to participate<br>➢ Capable trainers are identified |
| 3.3 Organize national training in monitoring of pesticide POPs and PCBs in human samples, targeting the centre for disease control and prevention (CDC) laboratories at provincial levels. | ➢ Improved monitoring capacity of trainees | ➢ Developed training materials<br>➢ Training workshop report(s)<br>➢ Number of participants<br>➢ Other reports<br>➢ Capacity improvement shown in the results of new sampling and analyses | ➢ Centres willing to participate<br>➢ Capable trainers are identified |
| 3.4 Organize inter-laboratory comparisons and calibrations with the participation from all the trained laboratories | ➢ Data and results for inter-comparison and inter calibration<br>➢ Workshop for improvement oriented training | ➢ Report on the results of cross-laboratory inter comparisons and calibration<br>➢ Analysis reports<br>➢ Workshop for improvement oriented training | ➢ Stakeholders willing to participate |
| **Output 4. Research and Development** | | | |
| 4.1 To establish the coordination mechanism between CIO/SEPA and the main R&D financial sources | ➢ The regular communication and coordination mechanism among government and funding sources developed<br>➢ POPs inclusion in national R&D Resources Application Guidelines | ➢ Minutes for the regular meetings and consultations<br>➢ Reports on coordination workshops | ➢ Stakeholders willing to cooperate |

| Intervention Logic | Objectively Verifiable Indicators | Sources of Verification | Assumptions and Risks |
|---|---|---|---|
| 4.2 Regularly evaluate progress of national R&D activities related to POPs | ➢ National R&D activities with relevance to POPs evaluated and supervised by the expert advisory committee in the project | ➢ Evaluation reports<br>➢ Progress reports of R&D activities<br>➢ Workshop reports | ➢ Fund available for tracking and intervention |
| 4.3 Establish incentive program for promoting R&D results that can effectively and efficiently support Convention implementation | ➢ Incentive program established Number of dissertations published in periodicals of world reputation,<br>➢ Number of patents for anti-POPs initiatives | ➢ Incentive program report<br>➢ Number of stakeholders participating in he program<br>➢ Progress reports<br>➢ Dissertations, patents | ➢ Stakeholders willing to participate the program; R&D activity attractiveness |
| 4.4 Promote exchange and communication of R&D progress between the international and national academics. | ➢ Presentations and technical communications | ➢ Reports on workshops or seminars abroad<br>➢ Reports on domestic technical communication workshops<br>➢ National expert mission reports<br>➢ National expert training materials<br>➢ Mission reports of international experts<br>➢ Presentations | ➢ Competent national and international experts can be selected and recruited. |
| **Output 5. Technology Transfer Promotion Centre established** | | | |
| 5.1 Establish assistance-oriented Technology Transfer Promotion Centre (TTPC) for the Convention Implementation | ➢ Technology transfer promotion centre established and in operation | ➢ Operating rules in place<br>➢ Number of personnel and experts recruited<br>➢ Equipment procurement | ➢ Subcontractor/ partner to house TTPC can be identified<br>➢ Government co-financing is available |
| 5.2 Enable centre to work as a technology information clearinghouse | ➢ Opportunities identified for technology upgrading through analyses on current and forthcoming national technology development programs and plans. | ➢ Collected Information shown in various medias<br>➢ Reports on the consultation with relevant industrial organizations | ➢ Government agencies willing to cooperate<br>➢ Competent international and national experts are available for in-depth POPs related economic, environmental, and social surveys |

| Intervention Logic | Objectively Verifiable Indicators | Sources of Verification | Assumptions and Risks |
|---|---|---|---|
| | ➢ Liaison established with relevant government agencies, industrial associations, research institutes, and universities<br>➢ Surveys and evaluations conducted on supply and demand of applicable technology<br>➢ Platform established for sharing technological cooperation and information dissemination | ➢ Increased members in the Liaison list for information sharing<br>➢ The relevant social surveys and evaluation reports<br>➢ The distributed information<br>➢ The progress report of TTPC<br>➢ Other relevant workshop reports<br>➢ Joint venture promoted<br>➢ The amount of introduced investments and technical staffs | ➢ Opportunities exist for foreign investments |
| 5.3 Provide enterprises with assistance in optimizing technical and engineering design to meet the Convention requirements | ➢ Improved cooperation between anti-POPs technical initiatives with national program and plans for economic restructuring, circular economy (3R & zero emission practices) and the development of environment protection industry<br>➢ Hotspots and opportunities identified<br>➢ Concord efforts shown in technical assistance to enterprises that are willing to take actions against POPs | ➢ Workshops reports<br>➢ Technical assistance reports | ➢ Enterprises willing to participate in technical assistance program and share information |
| 5.4 Establish a technological coordination and cooperation platform to promote introduction and transfer of technologies from technology suppliers to users | ➢ Questionnaires about technology suppliers and users prepared<br>➢ Technical exhibitions and workshops held | ➢ Questionnaires about technology suppliers and users<br>➢ Minutes of the exhibitions and workshops | ➢ The suppliers and users are willing to participate in activities |

| Intervention Logic | Objectively Verifiable Indicators | Sources of Verification | Assumptions and Risks |
|---|---|---|---|
| 5.5 Evaluate barriers to technology transfer and propose the instruments to remove identified barriers for continuous improvement of the TTPC performance | ➢ Performance appraisal of TTPC | ➢ Performance appraisal report<br>➢ Proposals for further improvements or activities | ➢ Government willing to consider the further improvements and donors willing to support further initiatives |
| **Output 6: Data collection, processing and reporting** | | | |
| 6.1 Identify information needs and develop analysis and dissemination guidelines | ➢ Data requirements of SC and COP including all forms to be filled in and the relevant reports to be submitted and reviewed.<br>➢ Other information needs relevant to anti-POPs initiatives assessed | ➢ Information needs assessment report | ➢ The needed data can be made available |
| 6.2 Strengthen integration of information from various ongoing projects | ➢ Data collected from on-going projects | ➢ Data collection protocols<br>➢ Implementation reports | ➢ The other on-going projects accept the protocols |
| 6.3 Establish information collection channel for unintentionally produced POPs in demo provinces | ➢ Data collection protocols for Unintentionally produced POPs established in a pilot city | ➢ An on-line operational project management information system<br>➢ Information collection reports for unintentionally produced POPs in a pilot city | ➢ The staff of the relevant environmental protection agencies and enterprises are sufficiently trained |
| 6.4 Analyze and disseminate information | ➢ Number of collaborative and external visitors to the website<br>➢ Data and information filled in to meet with requirements of Secretariat of Stockholm Convention (SSC) and COP | ➢ An on-line operational POPs website<br>➢ Documentation series for expansion of management information system<br>➢ Data filled in all files and forms to meet the requirements of SSC and COP | ➢ The system can later be upgraded to interact with other Chinese environmental management information systems |
| **Output 7: Institutional strengthening for decision-making and coordination and enforcement of policy and/or legislation** | | | |

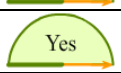
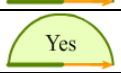
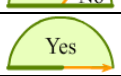
| Intervention Logic | Objectively Verifiable Indicators | Sources of Verification | Assumptions and Risks |
|---|---|---|---|
| 7.1 Strengthen NCG and CIO | ➢ More rational decisions made<br>➢ National Advisory Committee (NAC) established and functional<br>➢ More effective and efficient responses of CIO to the COPs | ➢ Agendas and minutes of NCG meetings<br>➢ Activity plans and reports from the CIO | ➢ The CIO will make a fast move to hire key requisite staff. |
| 7.2 Establish 3 Local Convention Implementation Units | ➢ 3 LCIUs established and responsive to CIO requirement | ➢ Activity plans and reports from the 3 LCIUs | ➢ The local governments committed to POPs reduction and elimination |
| 7.3 Develop training materials and conduct training for environmental protection departments at central, regional and local levels | ➢ Training conducted for relevant inspection and enforcement departments, targeting the application of cleaner production and EIA | ➢ EIA and cleaner production guidelines modified to take POPs concerns into consideration | ➢ POPs issues can be incorporated into the routine work schedule of the environmental protection authorities |
| 7.4 Launch joint inspections | ➢ Inspections for POPs release conducted in key areas and sectors | ➢ Reports on inspections | ➢ Strong inter-ministerial coordination can be achieved |
| 7.5 Establish and strengthen self-policing and supervision | ➢ Extent of enterprise self-policing and interaction with CIO | ➢ Reports on enterprise self-policing | ➢ Active participation from enterprises |
| **Output 8. Evaluation and follow-up** | | | |
| 8.1 Establish a joint working team for evaluation | ➢ A joint evaluation team operates | ➢ Evaluation team work plan | ➢ There is open, transparent, and effective communication between the evaluation team and the project implementation staff |
| 8.2 Train the evaluation staff | ➢ Evaluation capacity developed by trainings | ➢ Training materials | ➢ Guidance from the Secretariat is available |
| 8.3 Evaluate the progress, results and impacts of the NIP implementation | ➢ Evaluations have been performed for NIP<br>➢ Evaluation support provided to the Convention Secretariat | ➢ NIP implementation evaluation reports | ➢ Documentations can be made available to the external evaluation staff |

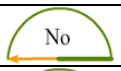
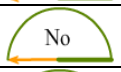
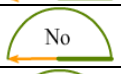
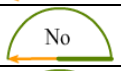
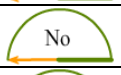
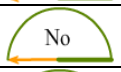
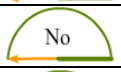
| Intervention Logic | Objectively Verifiable Indicators | Sources of Verification | Assumptions and Risks |
|---|---|---|---|
| 8.4 Further assess the capacity needs for the Convention implementation | ➢ Ensuing capacity needs assessed | ➢ Report on further capacity needs | ➢ Stakeholders are encouraged to disclose capacity gaps |
| 8.5 Hold a workshop to present and disseminate the evaluation findings | ➢ Comments and responses received | ➢ Minutes of meeting | ➢ A qualified audience can be obtained for the meeting |
| ***Outcome 3: Changed attitudes and behaviors that promote protection*** | | | |
| *Output 9*. Public awareness<br>*Output 10*. Education | ➢ Materials in different forms tailored to various kinds of media distributed for public awareness<br>➢ The education system is motivated to conduct relevant POPs related education | ➢ Brochures, posters, TV programs, radio programs, newspapers, magazines, websites, CDs<br>➢ Demonstrative POPs education programs and implementation reports | ➢ Willingness of media to cooperate and interest of the other stakeholders to participate in the awareness raising activities<br>➢ Willingness of the education system to cooperate and participate |
| **Output 9. Materials for public awareness** | | | |
| 9.1 Establish a comprehensive platform for effective POPs information distribution | ➢ Good contacts with various news media, including TV, radio, newspaper, and Internet | ➢ Plan for media mobilization to publicize POPs issues and report on implementation | ➢ Willingness of media to cooperate |
| 9.2 Establish partnerships for raising public awareness of POPs issues | ➢ Partnerships established with other environmental protection promotion programs of governments, NGOs, community based organizations (CBOs), and schools | ➢ Plan for partnerships establishment and report on implementation | ➢ Willingness of governments, NGOs, community based organizations (CBOs), and schools |
| 9.3 Produce materials for raising public awareness of POPs issues | ➢ Materials available for distribution | ➢ Plans for public exposure to POPs information and report on implementation | ➢ Awareness and information lead to changed attitudes and behavior of those who feel they have cause for concern |
| 9.4 Distribute POPs information and publicity materials | ➢ Percentage of target audience in key areas exposed to information regarding POPs risks | ➢ Survey report on the percentage that is aware | |

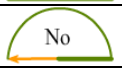
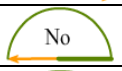
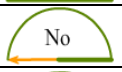
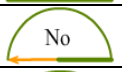
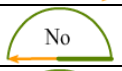
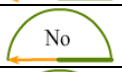
| Intervention Logic | Objectively Verifiable Indicators | Sources of Verification | Assumptions and Risks |
|---|---|---|---|
| 9.5 Implement a special program for farmers' awareness | ➢ Program to reach farmers established | ➢ Plan for program to reach farmers and reports on implementation | ➢ Materials tailor-made for easy understanding by farmers |
| **Output 10. Education** | | | |
| 10.1 Propose modified educational curricula | ➢ Proposal is transmitted to Ministry of Education to modify the POPs related curriculum | ➢ Proposal text | ➢ Interest and willingness of Ministry of Education to accept the proposal |
| 10.2 Prepare textbooks and training materials and train university teachers | ➢ Textbook and training materials, and number of teachers trained | ➢ Inventory of POPs education materials and lists of trainees | ➢ Educators will be interested in participating as trainees |
| 10.3 Ditto middle schools and primary schools | ➢ Number of demonstrations of POPs education | ➢ List of demonstrations | ➢ Ditto |
| 10.4 Carry out demonstrations of POPs education in selected universities, middle schools, and primary schools | ➢ Number of registrations to on-line POPs education program | ➢ On-line POPs education curriculum | ➢ Educators will be supported by their schools to carry out the demonstrations |
| 10.5 Design and implement an on-line POPs education program for university students | ➢ Number of participants in workshop to exchange teaching experiences | ➢ On-line POPs education program website | ➢ Material producers will be able to find adequate information |
| 10.6 Organize a training workshop involving mayors of cities in 3 demonstration provinces and evaluate the experience | ➢ Number of mayors participating the trainings<br>➢ Experience derived from demonstration education programs for improvement | ➢ Training materials<br>➢ Minutes of meeting<br>➢ Evaluation report | ➢ Mayors will be interested in participating as trainees |
| ***Outcome 4: Project management and oversights*** | | | |
| **Output 11: Project management and M&E** | | | |

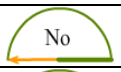
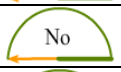
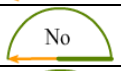
| Intervention Logic | Objectively Verifiable Indicators | Sources of Verification | Assumptions and Risks |
|---|---|---|---|
| 11.1 Establish the national project management office (PMO) | ➢ PMO established and operational<br>➢ Full-time National Project Manager (NPM) recruited and functional<br>➢ Support staff recruited and functional | ➢ PMO workplan<br>➢ TORs of NPD<br>➢ TORs of the support staff | ➢ A highly qualified NPM can be recruited to manage the very comprehensive project |
| 11.2 Establish 3 local project implementation units (PIU) | ➢ Three LCIUs established and operational | ➢ LCIUs workplan | ➢ The local provinces are committed to POPs reduction and elimination |
| 11.3 Establish a Project Coordination Group (PCG) | ➢ PCG established and functional | ➢ Working rules of PCG | ➢ Strong commitment and coordination of the PCG members |
| 11.4 Recruit and sustain employment of national experts and subcontractors | ➢ Experts, consultants and subcontractors recruited to deliver technical assistances | ➢ TORs for consultants and subcontractors | ➢ Qualified consultants and subcontractors can be recruited through open biddings |
| 11.5 Extend the operation of the international TCG that was previously established for NIP development and implementation | ➢ Reports of the meetings of the Technical Coordination Group (TCG) are available | ➢ Minutes of the meetings of TCG, together with the list of the participants | ➢ Willingness of relevant stakeholders |
| 11.6 Designate a project focal point within UNIDO | ➢ Focal point of UNIDO designated | ➢ TORs of UNIDO focal point<br>➢ Project implementation reports from experts and subcontractors | ➢ Quality assistance and guidance can be delivered by UNIDO in time |
| 11.7 Conduct Project Implementation Reviews | ➢ Annual project implementation reviews (PIRs) meetings conducted<br>➢ Mid-term and terminal reviews carried out | ➢ PIR reports<br>➢ Minutes of meeting<br>➢ Reports of mid-term review and terminal review | ➢ Wrongful deeds identified by evaluations and can be expeditiously corrected |
| 11.8 Provide independent evaluation and financial reviews | ➢ Independent audits and evaluation conducted | ➢ Financial audit reports<br>➢ Independent M & E reports | ➢ Qualified independent evaluators can be recruited |

## ANNEX B: LINKAGES OF SIRE TO NIP

| ACTIVITIES, STRATEGIES AND ACTION PLANS IN NIP | | CROSS CUTTING | OUTPUTS OF SIER |
|---|---|---|---|
| **Component 1** | **Strengthening of institutional capacity policies and regulations** |  | Output 7 |
| *Sub-component 1* | *Institutions and their capacity building* |  | Output 7 |
| Action 1 | Capacity building of the National Technical Coordination Group for Implementation of the Stockholm Convention |  | Output 7 |
| Action 2 | Capacity building of central ministries related with Convention implementation |  | Output 7 |
| Action 3 | Capacity building for the Office of the National Technical Coordination Group for Implementation of the Stockholm Convention |  | Output 7 |
| Action 4 | Capacity building of the related local departments for Convention implementation |  | Output 7 |
| Action 5 | Capacity building of related industries |  | |
| *Sub-component 2* | *Establish and improve laws and regulations related with POPs management* |  | Output 1 |
| Action 6 | Develop plans for establishment or revision of related national laws and regulations |  | Output 1 |
| Action 7 | Develop Regulatory Management Rules for Reduction and Control of POPs |  | Output 1 |
| *Sub-component 3* | *Formulate and improve the standard system on the management of POPs* |  | Output 1 |
| Action 8 | Revise environment related quality standard |  | Output 1 |
| Action 9 | Revise or formulate related product quality standards |  | Output 1 |
| Action 10 | Revise or formulate the emission standard of pollutants in key industries |  | Output 1 |
| Action 11 | Formulate clean production standards, technology policies or technology requirements in relevant industries |  | Output 1 |
| *Sub-component 4* | *Revise and improve the list of POPs management* |  | Output 1 |
| Action 12 | Revise Specification of Hazardous Chemicals and Specification of Hazardous Goods |  | Output 1 |
| Action 13 | Revise the Catalogue for the Guidance of Industrial Structure Adjustment |  | Output 1 |
| *Sub-component 5* | *Strengthen the enforcement and encourage public participation* |  | Output 7 and 10 |
| Action 14 | Strengthen the enforcement |  | Output 7 |
| Action 15 | Promote public participation |  | Output 10 |
| *Sub-component 6* | *Evaluation and study on the mechanism and policies of Convention implementation* |  | Output 8, 11 |
| Action 16 | Study on POPs impacts and new POPs items |  | Output 3, 4 |
| Action 17 | Policies study on market mechanism promotion of alternatives/ alternative technology and waste reuse technology |  | Output 5 |
| Action 18 | Study on investment and financing mechanism and technological policies |  | Output 2 |
| Action 19 | Choose representative regions to develop pilot work |  | All outputs |

| | | | |
|---|---|---|---|
| Action 20 | Evaluation on the results and impacts of NIP implementation and study on the control of POPs impacts |  | Output 8, 11 |
| **Component 2** | **Measures for reduction and elimination of intentional production and use of POPs** |  | Output 1, 7, 9, 10, 11 |
| **Component 3** | **Production, import and export, use, stockpiles and wastes of POPs pesticides included in Annex A (Part I Chemicals, Annex A)** |  | |
| Action 21 | Gradually eliminate and effectively control the production, use, import and export, exempt production and the use process as well as the pollution emission of HCB, chlordane and mirex |  | |
| Action 22 | Prohibit the production and use of HCB |  | Output 1 and 7 |
| Action 23 | Strictly control the import and export of all the chemicals in Part One, Annex A under the Convention |  | Output 6, 7 |
| Action 24 | Control the exempted production and using processes of POPs |  | |
| **Component 4** | **Production, import and export, use, identification, labelling, movement, storage and treatment of PCBs and capacitors containing PCBs** |  | |
| Action 25 | Improve the system on regulation and management of the electric equipment in use containing PCBs |  | |
| Action 26 | Improve and strengthen the environmental management function of the institutions in charge of electric equipment in use containing PCBs |  | |
| Action 27 | Expand identification and labelling of the electric equipment in use containing PCBs, and gradually complete the inventory |  | |
| Action 28 | Enhance the removal of PCBs in electric equipment in use containing PCBs or the environmentally sound disposal of the equipments |  | |
| **Component 5** | **In the event that DDT is used in China, production, import and export, use, stockpiles and disuse of DDT** |  | |
| Action 29 | Strictly restrict and gradually phase out the production and use of DDT |  | |
| Action 30 | Strictly control the import and export of DDT |  | |
| Action 31 | Control pollution from the exempted production and use of DDT |  | |
| **Component 6** | **Specific exemption and continuous exemption** |  | |
| **Component 7** | **Measures for reduction of unintentionally produced POPs releases** |  | Output 4, 5 |
| *Sub-component 7* | *Actions and measures of reducing and eliminating intentional production and use of pesticide-like POPs* |  | Output 4, 5 |
| Action 32 | Assess the technical feasibility of applying BAT to new sources in Part II, Annex C of the Convention by 2008 |  | Output 9 |
| Action 33 | Revise Table of Construction Project Environmental Protection Classification and Management by 2008 |  | Output 1 |
| Action 34 | Improve the environment impact assessment mechanism for Part II, Annex C by 2008 |  | Output 1 |
| Action 35 | Establish and improve discharge standards for new sources of key industries listed in Part II, Annex C of the Convention by 2008 |  | Output 1 |
| Action 36 | Revise Guiding Catalogue for Industry Restructuring by 2008 |  | Output 1 |
| *Sub-component 8* | *Improve dynamic catalogue database of PCDD/Fs* |  | Output 4, 6, 7 |
| Action 37 | Establish and enforce national monitoring capability of PCDD/Fs |  | Output 3 |
| Action 38 | Complete systematic monitoring of key release sources of PCDD/Fs by 2015 |  | Output 3 |

| | | | |
|---|---|---|---|
| Action 39 | Set up mechanisms for dynamic monitoring of emission sources in major industries and for data reporting by 2015 |   | Output 6 |
| *Sub-component 9* | *Action and measure for reducing and controlling existing release sources* |   | Output 1 |
| Action 40 | Give priority to implementing enterprise-level BAT/BEP application demonstration programs for existing key release sources |   | |
| Action 41 | Improve cleaner production standards or cleaner production audit manual of key industries and promulgate BAT/BEP guideline of key industries (Cleaner production technical guideline) by 2010 |   | Output 1 |
| Action 42 | Set up and improve the release standards of existing key industrial sources by 2010 |   | Output 1 |
| Action 43 | Complete the first phase promotion works of BAT/BEP in the key industrial sources by 2015 |   | |
| Action 44 | Further revise existing cleaner production standards and cleaner production audit manual of key sources and BAT/BEP guideline of key industries of Chinese version by 2015 |   | Output 1 |
| Action 45 | By 2015 further revise release standards of the existing key industrial sources established before |   | Output 1 |
| Action 46 | Complete the second stage promotion of BAT/BEP of key industrial sources by 2025 |   | |
| *Sub-component 10* | *Action and measures to continuously reduce and control PCDD/Fs releases* |   | Output 1, 7, 9, 10 |
| Action 47 | Establish and implement periodic assessment and upgrading mechanism concerning the effectiveness of strategy and implementation |   | Output 9 |
| Action 48 | Gradually set up and improve the leading policy mechanism of PCDD/Fs release reduction control |   | Output 1, 7, 9, 10 |
| **Component 8** | **Measures for reduction of releases from stockpiles and wastes** |   | Output 1 |
| Action 49 | Improve the system of environmentally sound management of POPs wastes |   | Output 1 |
| Action 50 | Enforce the capability of the central government and local administrations on POPs stockpiles management and environmentally sound management and disposal of wastes |   | Output 6, 7, 10, and 12 |
| Action 51 | Improve the capacity for environmentally sound management of POPs wastes |   | Output 5 |
| Action 52 | Implement and adjust in time plans for environmentally sound disposal of POPs wastes |   | |
| **Component 9** | **Identification of stockpiles, articles in use and wastes** |   | Output 1, 6 |
| Action 53 | Improve the database of dynamic change of POPs stockpile and wastes |   | Output 6 |
| Action 54 | Identify pesticide POPs stockpiles and waste |   | Output 6 |
| Action 55 | Investigate and identify wastes containing PCBs |   | |
| Action 56 | Investigate and identify wastes containing dioxin |   | Output 6 |
| **Component 10** | **Stockpile management, take proper measures to handle and dispose articles in use** |   | |
| Action 57 | Properly manage existing pesticide POPs stockpiles |   | |
| Action 58 | Identify and effectively manage pesticide POPs products or articles being used |   | |
| Action 59 | Properly manage temporarily stored electric equipment containing PCBs |   | |
| **Component 11** | **Identification of contaminated sites, and remediation in an environmentally sound manner** |   | |

| | | |
|---|---|---|
| Action 60 Build a legal and institutional system for managing and remediation of POPs-contaminated sites in an environmentally sound manner |  | |
| Action 61 Identify POPs- contaminated sites |  | |
| Action 62 An action plan for remediation POPs-contaminated sites in an environmentally sound manner |  | |
| **Component 12 Promote and conduct communication with stakeholders** |  | Output 6, 9, and 10, |
| **Component 13 Public awareness, information and education** |  | Output 9, 10 |
| **Component 14 Effectiveness evaluation** |  | Output 3, 6, 8 |
| **Component 15 Reporting** |  | Output 6 |
| **Component 16 Research, development and monitoring** |  | |
| *Sub-component 11 POPs monitoring actions* |  | |
| Action 63 Establish a primary POPs monitoring network and improve the management regulations |  | Output 3 |
| Action 64 Monitor POPs release sources |  | Output 3 |
| Action 65 Carry out monitoring survey on residual POPs concentrations in environmental media and human body |  | Output 3 |
| Action 66 Monitoring activities at POPs contaminated sites |  | Output 3 |
| Action 67 Regular monitoring of POPs content in food and drinking water |  | Output 3 |
| Action 68 Monitor residual POPs concentration in bodies of key groups of population and common residents |  | Output 3 |
| *Sub-component 12 Research and Development* |  | |
| Action 69 Research on persistent and long-range environmental transport of POPs |  | Output 4 |
| Action 70 Research on human body exposure to POPs and environmental impact and risk assessment |  | Output 4 |
| Action 71 Development of POPs monitoring methodology |  | Output 4 |
| Action 72 Research and development and techno-economic cost analysis of BAT/BEP |  | Output 4 |
| Action 73 Development of alternatives to POPs and release reduction technologies |  | Output 4 |
| Action 74 Development of POPs disposal technologies |  | Output 4 |
| **Component 17 Technical and financial assistance** |  | |
| *Sub-component 13 Technical and financial support* |  | Output 5, 3, 6, 8, 4 |
| *Sub-component 14 Financial support* |  | Output 7, 1 |

## Annex C: TERMS OF REFERENCE FOR INTERNATIONAL EXPERTS

**1. Post: Chief Technical Advisor (CTA)**

**Duration:** 12 work-months over a period of 5 years of which at least 6 work-months in China, splitting in regular missions. The number and duration of missions will be determined in the course of the project in accordance with the work plan.

**Duty station:** China and home-based

**Purpose**:

i. Transfer international experience in institutional and regulatory framework strengthening and enforcement through NTA and other local experts to the various stakeholders associated with POPs management. Provide technical advice for the capacity building programs implementation, including training manual, training program, technology transfer, research, awareness raising, monitoring and evaluation;

ii. Assist CIO in overall technical support of other project activities, including institutional strengthening, policy development, awareness raising, monitoring and evaluation, and inspection for enforcement and compliance;

iii. Review terms of references (ToRs) for individual experts and implementation of project activities;

iv. Advise CIO on project monitoring, evaluation, including providing comments and finalizing the English version of semi-annual progress reports on the ongoing activities, and annual action plan;

v. Troubleshoot technical and implementation issues that may emerge.

**Scope of work**

| | |
|---|---|
| 1 | The CTA will assist CIO, together with national experts, to oversee all technical components of the Project. The Grant Agreement, Project Document, the Project Implementation Manual and the Annual Work Plan are the basic documents describing the project and guiding its implementation[2]. Through continuous project monitoring, the CTA will assist CIO to provide corrective countermeasures for accidental problem. The CTA will work together with the NTA and a number of other individual technical experts at the highest technical level. The CTA will report directly to UNIDO Project Manager and the Project Manager in SEPA/CIO. |
| 2 | The CTA will provide overall technical assistance in the following aspects: |
| | **- Support to workshops and trainings** including participation in all important project workshops, introducing relevant international experience in the workshops, and reviewing and commenting all relevant deliverables of the workshops. This will include the following workshops:<br>i. inception workshops (national and regional inception workshops)<br>ii. policy and regulatory framework reform workshops<br>iii. co-fund raising consultation workshop<br>iv. technologies evaluation workshops<br>v. three annual project implementation review meetings<br>vi. institutional coordination and technical consultation workshop<br>vii. enforcement and compliance workshop<br>viii. monitoring and evaluation workshops<br>ix. project results publicity and dissemination workshops |

[2] The documents will be available soon after the inception workshop. Consultants interested in the position of the CTA are strongly encouraged to review the documents before considering the assignment.

| | |
|---|---|
| | - **Support to project implementation including**:<br>i. development of a work plan of capacity building at various levels[3]<br>ii. providing assistance in developing, reviewing, and finalizing various programs such as technology research and transfer, enforcement and compliance, and awareness raising.<br>iii. participation in the training for researchers and trainers to transfer of the needed technologies to industries in the trainings.<br>iv. guiding with the technology equipment vendors/suppliers, local experts of enterprise on technical issues concerning environmentally sound management of chemicals. |
| | **- Monitoring and Evaluation** for the whole process of the project**.** At this level the CTA will<br>i. review and finalize the TORs for selection of experts and implementation of project activities in order to guarantee TORs are prepared in compliance with the requirement of the project and the principles of Stockholm Convention.<br>ii. review and finalize all key project reports such as:<br>➢ drafts of the 2nd, 3rd, and 4th annual work plan of the project,<br>➢ quarterly progress reports on the ongoing activities,<br>➢ evaluation report on national policy and regulation reform,<br>➢ draft framework of technology R&D, transfer and acquisition,<br>➢ finalize the English version of all project reports and deliverables before dissemination to relevant stakeholders. |
| | - **Provide technical advice on establishment of MIS including**:<br>i. data of production, distribution, use and disposal of intentionally produced POPs<br>ii. data emission of UP-POPs. |
| | - **Provide corrective countermeasures for accidental issues and provide advice on other project matters as requested by the CIO.** |

**Qualifications:**

- Extensive practical experience with institutional and regulatory framework strengthening and enforcement;
- PhD in a field directly related to environmental laws and management;
- Experience with implementation of international projects; and
- Good communication and writing skills in English;

The following qualifications will be helpful: knowledge of the Stockholm Convention on POPs and working experience in China.

**Language**: English

**2. Post: International Chemical Policy and Regulation Expert**

**Duration:** 6.5 staff weeks over a period of 5 years

**Duty station:** China and home based

**Counterpart:** SEPA/FECO, its subcontractors and appointed national experts

**Purpose:** To assist national counterparts, their subcontractors, experts and stakeholders to integrate fully the principles and obligations of the Stockholm Convention with state laws, administrative regulations, policies and management instruments governing POPs chemicals management at national and provincial levels.

[3] Especially the work plan for installation and monitoring of the alternative production and distribution.

**Main duties:**

| | |
|---|---|
| 1. | 1.1 Review Stockholm Convention guidelines and any guidance arising from the CoP, the Convention Secretariat and others, to determine those principles and obligations that need to be integrated with the state laws, administrative regulations, policies and management instruments governing POPs chemicals management at national and provincial levels.<br>1.2 Identify successful examples of such integration in other countries and prepare a report setting out best practice approaches.<br>1.3 Review the laws, regulations, administrative rules, policies and standards of national and provincial levels listed in Table 1 of the ProDoc, as well as other legislation pieces that may come out of the stakeholders. |
| 2. | Conduct mission to work with national counterparts, subcontractors, experts and stakeholders to:<br>- present and facilitate discussion amongst key high-level national stakeholders.<br>• rationale for inclusion of POPs concerns in national policy and regulatory instruments.<br>• best practice examples from other countries.<br>• analysis of existing policy and state laws and recommendations for inclusion of POPs concerns.<br>• recommendations for suggested approaches to policy and regulatory instrument development or modification in China, taking advantage of opportunities to integrate work of those MEAs to which China is party.<br>- develop an operational plan for the preparation of :<br>• detailed recommendations for the development or modification of policy and regulatory instruments; and<br>• compilation and review of existing administrative rules and management instruments governing POPs chemicals management at national and provincial levels. |
| 3. | 3.1 Receive, review and make suggestions for further work and improvements on counterpart reports (i) technical and socio-economic studies; (ii) detailing recommendations for the development or modification of policy and regulatory instruments and (iii) compiling and reviewing existing administrative rules and management instruments for POPs chemicals management at national and provincial levels.<br>3.2 Review the recommendations put forward by national counterparts in relation to (i) the obligations of the Stockholm Convention; and (ii) the need for compatibility and conformity with other MEAs. |
| 4. | 4.1 Conduct mission to work with national counterparts, subcontractors, experts and stakeholders to;<br>- Facilitate the review of the laws, regulations, administrative rules, policies and standards of national and provincial levels listed in Table 1 of the ProDoc by key high-level national stakeholders on:<br>• recommendations and conclusions arising from a socio-economic study of (i) continuing POPs chemical use; (ii) incremental costs and benefits of measures to meet the obligations of the Convention.<br>• proposals and recommendations for suggested developments or modifications to state policy and laws and assistance to meet China's obligations as a Party to the Stockholm Convention, and integrating obligations of other relevant MEAs to which China is party;<br>• proposals and recommendations for suggested developments or modifications of national and provincial regulatory and management instruments to meet China's priorities and obligations as a Party to the Stockholm Convention;<br>• proposals and recommendations for suggested development of management instruments to meet China's obligations as a Party to the Stockholm Convention.<br>- Revise and further develop policies, regulatory and management instruments in the light of recommendations from stakeholders. |
| 5. | 5.1 Provide *ad hoc* support to national counterparts, subcontractors and national experts in regard to integration of POPs concerns into national policy and regulatory instruments in conformity with national and Convention objectives.<br>5.2 Prepare final progress report summarizing lessons and experience, and submit to UNIDO. |

**Expected outcomes and reporting**

Interim, review, mission and final reports setting out:

- Examples of good practices established in other countries for the enhanced management and control of POPs through the enhancement of national policies, state laws and national and provincial administrative regulations and management instruments;
- Operational plans for the preparation of recommendations for the development or modification of policies, regulatory and management instruments
- proposals and recommendations for suggested developments or modifications to state policy and laws and assistance to meet China's obligations as a Party to the Stockholm Convention, and integrating obligations of other relevant MEAs to which China is a party;
- proposals and recommendations for suggested developments or modifications of national and provincial regulatory and management instruments to meet China's priorities and obligations as a Party to the Stockholm Convention;
- proposals and recommendations for suggested development of management instruments to meet China's obligations as a Party to the Stockholm Convention
- Activities undertaken to assist national counterpart, subcontractors and national experts to develop best practice in China

**Qualifications:**

Demonstrated experience with the regulatory requirements of the Stockholm Convention, including any guidance provided by its INC and, if appropriate, CoP, and of other relevant requirements arising from MEAs to which China is a party;

Considerable professional experience of the assessment and analysis of existing legislation and of developing or modifying policy, regulatory and management instruments to meet national and international obligations;

Professional experience of assessing impacts of the proposed changes using results from socio-economic impact studies;

Demonstrated abilities in capacity development and the transfer of best practice regarding environmental policy, legislation, strategies and programmes;

Considerable professional experience of working with key national stakeholders, international and national agencies and experts to;

- Establish an open consultative process of review and acceptance by stakeholders of recommendations, building capacity in national counterparts as necessary
- Describe principal recommendations and socio-economic study results to stakeholders and win their support;
- Assist in taking forward the results of a consultation process into national planning documents.

Excellent drafting, presentational and inter-personnel skills; and

Previous experience in China and a working knowledge of the Mandarin language

**Language:** English / Mandarin

**3. Post: International Environmental Financing and Investment expert**

**Duration:** 6.5 staff weeks for a period of 5 years

**Duty station:** China and home based

**Counterpart:** SEPA/FECO, its subcontractors and appointed national experts

**Purpose:** To develop mechanisms to channel the needed fund from multilateral and bilateral sources, central and local governments, enterprises and the public for the implementation of Stockholm Convention

**Main duties:**

| | |
|---|---|
| 1. | 1.1 Review international best practices and experience in using environmental financing instruments to address POPs issues about capacity building, pesticide POPs and PCBs, UP-POPs, stockpile and wastes, and Research & Development.<br>1.2 Review NIP and other supporting literature and materials to understand the status and needs for financing solutions to POPs issues.<br>1.3 Analyze the implications and applicability of international best practices and experience to China taking into account the actual situation.<br>1.4 Provide preliminary findings and recommendations for China to mobilize financing and investments in solutions to POPs issues. |
| 2. | 2.1 Conduct mission to work with national counterparts, subcontractors, experts and stakeholders to impart international experience, present findings and recommendations, and facilitate discussion amongst key national stakeholders.<br>2.2 Review and comment on the proposals from national counterparts, subcontractors, experts and stakeholders for the tasks to achieve Output 2.<br>2.3 Assist national counterparts, subcontractors, experts and stakeholders to develop an operational plan for the development of mechanisms for channeling the needed fund from multilateral and bilateral sources, central and local governments, enterprises and the public for the implementation of Stockholm Convention. |
| 3. | 3.1 Receive, review and make suggestions for further work and improvements on counterpart reports before the review of them by key high-level national and international stakeholders. |
| 4. | 4.1 Conduct mission to facilitate the presentation and review by key high-level national and international stakeholders, of the draft final reports worked out by national counterparts, subcontractors, experts and stakeholders.<br>4.2 Make recommendations and proposals for further revision into the final reports, taking into account the concerns and standpoints from the review meeting of 4.1. |
| 5. | 5.1 Provide ad hoc support to national counterparts, subcontractors and national experts in regard to the co-financing mechanism program development.<br>5.2 Prepare a final summary report summarizing findings, recommendations, decisions, lessons and experience, and submit to UNIDO for information and knowledge base building and dissemination. |

**Expected outcomes and reporting**

- Report on international best practices and experience in using environmental financing instruments to address POPs-like issues and their implications and applicability to China
- Mission and final report comprising discussions, findings, recommendations, decisions, lessons and experience in relation to financing to POPs issues.

**Qualifications:**

Extensive knowledge of environmental financing and economic instruments

Practical experience in developing innovative and effective financing mechanisms for the implementation of national and international environmental strategies

Demonstrated professional experience of project management and evaluation;

Demonstrated high-level of drafting and inter-personal skills, including the presentation of results to supervisory bodies and work teams;

Previous experience in China is an asset.

**Language:** English

**4. Post: International POPs monitoring expert**

**Duration:** 6.5 staff weeks for a period of 5 years

**Duty station:** China and home based

**Counterpart:** SEPA/FECO, its subcontractors and appointed national experts

**Purpose:** To facilitate the national counterparts to improve human resources and standardized management, and establish national laboratory accreditation system to assure the quality of POPs analysis meeting the requirements of important regulations/standards and the Stockholm Convention

**Main duties:**

| | |
|---|---|
| 1. | 1.1 Review international best practices and experience in setting up and improving human resources, standardized management, and laboratory accreditation system for POPs monitoring.<br>1.2 Review NIP and other supporting literature and materials to understand the status and needs of China in meeting the monitoring requirements of important regulations/standards and the Stockholm Convention.<br>1.3 Analyze the implications and applicability of international best practices and experience to China taking into account the actual situation.<br>1.4 Provide preliminary findings and recommendations for China to improve human resources and standardized management, and establish national laboratory accreditation system to assure the quality of POPs analysis meeting the requirements of important regulations/standards and the Stockholm Convention. |
| 2. | 2.1 Conduct mission to work with national counterparts, subcontractors, experts and stakeholders to impart international experience, present findings and recommendations, and facilitate discussion amongst key national stakeholders.<br>2,2 Review and comment on the proposals from national counterparts, subcontractors, experts and stakeholders for the tasks to achieve Output 3.<br>2.3 Assist national counterparts, subcontractors, experts and stakeholders to develop an operational plan for the human resources trainings for monitoring of pesticide POPs, PCB and UP-POPs in human and environmental samples. |
| 3. | 3.1 Receive, review and make suggestions for further work and improvements on counterpart reports before the review of them by key high-level national and international stakeholders. |
| 4. | 4.1 Conduct mission to facilitate the presentation and review by key high-level national and international stakeholders, of the draft final reports worked out by national counterparts, subcontractors, experts and stakeholders.<br>4.2 Make recommendations and proposals for further revision into the final reports, taking into account the concerns and standpoints from the review meeting of 4.1. |
| 5. | 5.1 Provide ad hoc support to national counterparts, subcontractors and national experts in regard to the POPs monitoring program development<br>5.2 Prepare a final summary report summarizing findings, recommendations, decisions, lessons and experience, and submit to UNIDO for information and knowledge base building and dissemination. |

**Expected outcomes and reporting**

- Report on international best practices and experience in setting up and improving human resources and standardized management of national POPs monitoring and their implications and applicability to China
- Mission and final report comprising discussions, findings, recommendations, decisions, lessons and experience in relation to POPs monitoring program development.

**Qualifications:**

Extensive knowledge of POPs environmental monitoring

Practical experience in setting up national environmental monitoring systems, strengthening standard management of monitoring activities, and improving human resources for monitoring of POPs or substances alike POPs

Demonstrated professional experience of project management and evaluation;

Demonstrated high-level of drafting and inter-personal skills, including the presentation of results to supervisory bodies and work teams and previous experience in China is an asset.

**Language:** English

**5. Post: International POPs R&D Capacity Building expert**

**Duration:** 6.5 staff weeks for a period of 5 years

**Duty station:** China and home based

**Counterpart:** SEPA/FECO, its subcontractors and appointed national experts

**Purpose:** To facilitate the national counterparts to establish mechanisms for promoting, coordinating and integrating R&D of needed knowledge and technologies for practical POPs reduction and control

**Main duties:**

| | |
|---|---|
| 1. | 1.1 Review international best practices and experience in promoting, coordinating and integrating R&D incentives and programs for POPs reduction and control.<br>1.3 Review NIP and other supporting literature and materials to understand the status and needs of China for knowledge and technologies in meeting the requirements of national regulations/standards and the Stockholm Convention.<br>1.4 Analyze the implications and applicability of international best practices and experience to China taking into account the actual situation.<br>1.5 Provide preliminary findings and recommendations for China to promote, coordinate and integrate R&D of needed knowledge and technologies for practical POPs reduction and control. |
| 2. | 2.1 Conduct mission to work with national counterparts, subcontractors, experts and stakeholders to impart international experience, present findings and recommendations, and facilitate discussion amongst key national stakeholders.<br>2.2 Review and comment on the proposals from national counterparts, subcontractors, experts and stakeholders for the tasks to achieve Output 4.<br>2.3 Assist national counterparts, subcontractors, experts and stakeholders to develop an operational plan, including a monitoring plan, for the establishment and maintenance of mechanisms for promoting, coordinating and integrating R&D of needed POPs knowledge and technologies. |
| 3. | 3.1 Receive, review and make suggestions for further work and improvements on counterpart reports before the review of them by key high-level national and international stakeholders. |
| 4. | 4.1 Conduct mission to facilitate the presentation and review by key high-level national and international stakeholders, of the draft final reports worked out by national counterparts, subcontractors, experts and stakeholders.<br>4.2 Make recommendations and proposals for further revision into the final reports, taking into account the concerns and standpoints from the review meeting of 4.1. |
| 5. | 5.1 Provide ad hoc support to national counterparts, subcontractors and national experts in regard to the POPs R&D promotion program development.<br>5.2 Prepare a final summary report summarizing findings, recommendations, decisions, lessons and experience, and submit to UNIDO for information and knowledge base building and dissemination. |

**Expected outcomes and reporting**

- Report on international best practices and experience in promoting, coordinating and integrating R&D incentives and programs for POPs reduction and control and their implications and applicability to China

- Mission and final report comprising discussions, findings, recommendations, decisions, lessons and experience in relation to POPs R&D promotion program development.

**Qualifications:**

Extensive knowledge of POPs R&D programs around the world

Practical experience in setting up and coordinating national POPs R&D programs and promoting their applications in practices

Demonstrated professional experience of project management and evaluation;

Demonstrated high-level of drafting and inter-personal skills, including the presentation of results to supervisory bodies and work teams and previous experience in China is an asset.

**Language:** English

**6. Post: International POPs Technology Transfer Promotion expert**

**Duration:** 6.5 staff weeks for a period of 5 years

**Duty station:** China and home based

**Counterpart:** SEPA/FECO, its subcontractors and appointed national experts

**Purpose:** To facilitate the national counterparts to (i) to bridge the linkages among government, enterprises and industrial associations, (ii) to build up the platform for information exchange between technology owners and users, (iii) to provide the enterprise with technical assistances to phase in BAT/BEP application and facilitate access to technology users to cost effective pesticide alternatives and PCB and waste disposal technologies; (iv) to promote with other countries the regional and global cooperation on technology transfer

**Main duties:**

| | |
|---|---|
| 1. | 1.1 Review international best practices and experience in promoting technology transfer for environmental pollution control, particularly for global environmental issues including POPs.<br>1.2 Review NIP and other supporting literature and materials to understand the status and needs of China for technologies in meeting the requirements of national regulations/standards and the Stockholm Convention.<br>1.3 Analyze the implications and applicability of international best practices and experience to China taking into account the actual situation.<br>1.4 Provide preliminary findings and recommendations for China and international communities to promote cooperation on and transfer of needed technologies for cost-effective POPs reduction and control in China. |
| 2. | 2.1 Conduct mission to work with national counterparts, subcontractors, experts and stakeholders to impart international experience, present findings and recommendations, and facilitate discussion amongst key national stakeholders.<br>2.2 Review and comment on the proposals from national counterparts, subcontractors, experts and stakeholders for the tasks to achieve Output 5.<br>2.3 Assist national counterparts, subcontractors, experts and stakeholders to develop an operational plan, including a monitoring plan, for the establishment and maintenance of an assistance-oriented Technology Transfer Promotion Center for the Convention Implementation (TTPC) to promote accessibility to the needed technologies by the Chinese enterprises. |
| 3. | 3.1 Receive, review and make suggestions for further work and improvements on counterpart reports before the review of them by key high-level national and international stakeholders. |
| 4. | 4.1 Conduct mission to facilitate the presentation and review by key high-level national and international stakeholders, of the draft final reports worked out by national counterparts, subcontractors, experts and stakeholders.<br>4.2 Make recommendations and proposals for further revision into the final reports, taking into account the concerns and standpoints from the review meeting of 4.1. |

| | |
|---|---|
| 5. | 5.1 Provide ad hoc support to national counterparts, subcontractors and national experts in regard to the POPs technology transfer promotion program development.<br>5.2 Prepare a final summary report summarizing findings, recommendations, decisions, lessons and experience, and submit to UNIDO for information and knowledge base building and dissemination. |

**Expected outcomes and reporting**

- Report on international best practices and experience in promoting technology transfer for POPs and their implications and applicability to China
- Mission and final report comprising discussions, findings, recommendations, decisions, lessons and experience in relation to POPs technology transfer promotion program development.

**Qualifications:**

Extensive knowledge of procedures and various models for environmental technology transfer, particularly to address global environmental issues including POPs

Practical experience in setting up and operating a dedicated institution for promoting cooperation on and transfer of environmental technologies

Demonstrated professional experience of project management and evaluation;

Demonstrated high-level of drafting and inter-personal skills, including the presentation of results to supervisory bodies and work teams;

Previous experience in China is an asset.

**Language:** English

**7. Post: International POPs information management expert**

**Duration:** 6.5 staff weeks for a period of 5 years

**Duty station:** China and home based

**Counterpart:** SEPA/FECO, its subcontractors and appointed national experts

**Purpose:** To facilitate the national counterparts to establish/strengthen a comprehensive POPs information management system for meeting reporting requirements of the Stockholm Convention and supporting data sharing among national and international stakeholders

**Main duties:**

| | |
|---|---|
| 1. | 1.1 Review international best practices and experience in establishing a comprehensive information management system for POPs management.<br>1.2 Review NIP and other supporting literature and materials to understand the status and needs of China for technologies in meeting the requirements of national regulations/standards and the Stockholm Convention.<br>1.3 Review existing data and information management systems and IT architecture within SEPA<br>1.4 Review existing data and information management systems and IT architecture of other government entities with responsibilities for data pertinent to meet Convention requirements<br>1.5 Review data and information management elements of other components of the GEF Full Project<br>1.6 Analyze the implications and applicability of international best practices and experience to China taking into account the actual situation.<br>1.7 Provide preliminary findings and recommendations for China and international communities to promote cooperation on and transfer of needed technologies for cost-effective POPs reduction and control in China. |
| 2. | 2.1 Conduct mission to work with national counterparts, subcontractors, experts and stakeholders to impart international experience, present findings and recommendations, and facilitate discussion amongst key national stakeholders. |

| | |
|---|---|
| | 2.2 Review and comment on the proposals from national counterparts, subcontractors, experts and stakeholders for the tasks to achieve Output 6.<br>2.3 Assist national counterparts, subcontractors, experts and stakeholders to develop an operational plan, including a monitoring plan, for the establishment and maintenance of the POPs information management system. |
| 3. | 3.1 Receive, review and make suggestions for further work and improvements on counterpart reports before the review of them by key high-level national and international stakeholders. |
| 4. | 4.1 Conduct mission to facilitate the presentation and review by key high-level national and international stakeholders, of the draft final reports and the IMS worked out by national counterparts, subcontractors, experts and stakeholders.<br>4.2 Make recommendations and proposals for further revision into the final reports, taking into account the concerns and standpoints from the review meeting of 4.1. |
| 5. | 5.1 Provide ad hoc support to national counterparts, subcontractors and national experts in regard to the POPs IMS development<br>5.2 Prepare a final summary report summarizing findings, recommendations, decisions, lessons and experience, and submit to UNIDO for information and knowledge base building and dissemination. |

**Expected outcomes and reporting**

- Report on international best practices and experience in establishing/strengthening a comprehensive POPs information management system for meeting reporting requirements of the Stockholm Convention and supporting data sharing among national and international stakeholders and their implications and applicability to China
- Mission and final report comprising discussions, findings, recommendations, decisions, lessons and experience in relation to POPs IMS development and implementation.

**Qualifications:**

Extensive knowledge of POPs information management

Practical experience in developing chemicals management information systems that involves collection of data from multiple departments, sources, and levels

Demonstrated high-level of drafting and inter-personal skills, including the presentation of results to supervisory bodies and work teams;

Previous experience in China is an asset.

**Language:** English

**8. Post: International Institutional Strengthening expert**

**Duration:** 6.5 staff weeks for a period of 5 years

**Duty station:** China and home based

**Counterpart:** SEPA/FECO, its subcontractors and appointed national experts

**Purpose:** To facilitate the national counterparts to (i) establish an expert consultation board to support the important decision making at top levels; (ii) enhance the implementation of NIP by devolving responsibilities to provincial government through developing provincial implementation plan (PIP) at focal provinces; (iii) promote, through planning, training and organization at central and provincial levels, the application of current available environmental protection instruments to meet the several obligations that are mentioned with deadlines in the Convention; and (iv) demonstrate enterprise self-discipline practices through encouraging voluntary elimination and reduction of POPs and establish respective incentive measures.

**Main duties:**

| | |
|---|---|
| 1 | 1.1 Review international best practices and experience in institutional strengthening for decision-making and legislation enforcement at national and local levels.<br>1.2 Analyze the implications and applicability of international best practices and experience to China taking into account the actual political structure in China.<br>1.3 Provide preliminary findings and recommendations for China to strengthen national and local institutions for decision-making and legislation enforcement consistent with the Stockholm Convention. |
| 2. | 2.1 Conduct mission to work with national counterparts, subcontractors, experts and stakeholders to impart international experience, present findings and recommendations, and facilitate discussion amongst key national stakeholders.<br>2.2 Review and comment on the proposals from national counterparts, subcontractors, experts and stakeholders for the tasks to achieve Output 7.<br>2.3 Assist national counterparts, subcontractors, experts and stakeholders to develop an operational plan, including a monitoring plan, for the institutional strengthening activities at national and local levels. |
| 3. | 3.1 Receive, review and make suggestions for further work and improvements on counterpart reports before the review of them by key high-level national and international stakeholders. |
| 4. | 4.1 Conduct mission to facilitate the presentation and review by key high-level national and international stakeholders, of the draft final reports worked out by national counterparts, subcontractors, experts and stakeholders.<br>4.2 Make recommendations and proposals for further revision into the final reports, taking into account the concerns and standpoints from the review meeting of 4.1. |
| 5. | 5.1 Provide ad hoc support to national counterparts, subcontractors and national experts in regard to the institutional strengthening program development.<br>5.2 Prepare a final summary report summarizing findings, recommendations, decisions, lessons and experience, and submit to UNIDO for information and knowledge base building and dissemination. |

**Expected outcomes and reporting**

- Report on international best practices and experience in institutional strengthening for decision making and legislation enforcement regarding POPs control and reduction at national and local levels and their implications and applicability to China.
- Mission and final report comprising discussions, findings, recommendations, decisions, lessons and experience in relation to institutional strengthening for POPs control and reduction.

**Qualifications:**

Extensive knowledge of institutional strengthening for POPs control and reduction or alike

Practical experience in developing and utilizing administrative and non-administrative instruments to promote enforcement and compliance of legislations regarding POPs control and reduction

Demonstrated high-level of drafting and inter-personal skills, including the presentation of results to supervisory bodies and work teams

Previous experience in China is an asset

**Language:** English

**9. Post:** **International POPs education expert**

**Duration:** 6.5 staff weeks for a period of 5 years

**Duty station:** China and home based

**Counterpart:** SEPA/FECO, its subcontractors and appointed national experts

**Purpose:** To facilitate the national counterparts to (i) Prepare POPs related textbook and training materials for higher education institutions; (ii) Prepare POPs related textbook and training materials for primary/middle schools; (iii) Develop pilot education programs at higher education institutions and primary/middle schools; (iv) Develop on-line POPs education programs

**Main duties:**

| | |
|---|---|
| 1. | 1.1 Review education requirements arising from obligations of the Stockholm Convention and from available guidance.<br>1.2 Review international best practices and experience in developing POPs education courses and programs in primary/middle schools and higher education institutions.<br>1.3 Analyze the implications and applicability of international best practices and experience to China taking into account the actual political structure in China.<br>1.4 Provide preliminary findings and recommendations for China to strengthen education consistent with the Stockholm Convention. |
| 2. | 2.1 Conduct mission to work with national counterparts, subcontractors, experts and stakeholders to impart international experience, present findings and recommendations, and facilitate discussion amongst key national stakeholders.<br>2.2 Review and comment on the proposals from national counterparts, subcontractors, experts and stakeholders for the tasks to achieve Output 10.<br>2.3 Assist national counterparts, subcontractors, experts and stakeholders to develop an operational plan, including a monitoring plan, for the education activities in primary/middle schools and higher education institutions. |
| 3. | 3.1 Receive, review and make suggestions for further work and improvements on counterpart reports before the review of them by key high-level national and international stakeholders. |
| 4. | 4.1 Conduct mission to facilitate the presentation and review by key high-level national and international stakeholders, of the draft final reports worked out by national counterparts, subcontractors, experts and stakeholders.<br>4.2 Make recommendations and proposals for further revision into the final reports, taking into account the concerns and standpoints from the review meeting of 4.1. |
| 5. | 5.1 Provide ad hoc support to national counterparts, subcontractors and national experts in regard to the educational program development.<br>5.2 Prepare a final summary report summarizing findings, recommendations, decisions, lessons and experience, and submit to UNIDO for information and knowledge base building and dissemination. |

**Expected outcomes and reporting**

- Report on international best practices and experience in developing POPs education courses and programs in primary/middle schools and higher education institutions and their implications and applicability to China.
- Mission and final report comprising discussions, findings, recommendations, decisions, lessons and experience in relation to POPs educational programs development in China.

**Qualifications:**

Extensive knowledge of POPs educational materials development and distribution

Practical experience in developing pilot POPs education programs in primary/middle schools and higher education institutions

Demonstrated high-level of drafting and inter-personal skills, including the presentation of results to supervisory bodies and work teams

Previous experience in China is an asset.

**Language:** English

**10. Post: International expert to develop public awareness initiatives**

**Duration:** 6.5 staff weeks for a period of 5 years

**Duty station:** China and home based

**Counterpart:** SEPA/FECO, its subcontractors and appointed national experts

**Purpose:** Assist the national counterparts and its subcontractors to:

- develop programmes of public awareness compatible with the obligations of the Stockholm Convention, taking advantage of the existing infrastructure, the wide variety of media and civil society groups capable of delivering such programmes;
- develop public access to data and information held in the central IMS through the internet-based portal by the general public; and
- build national capacity, including, where possible, civil society groups and rural communities, in public awareness, particularly in relation to the hazards posed by POPs chemical and the need for sound chemicals management.

**Main duties:**

| | |
|---|---|
| 1. | 1.1 Review public awareness requirements arising from obligations of the Stockholm Convention and from available guidance.<br>1.2 Review international best practices and experience in raising POPs awareness about the hazards and need for sound chemical management.<br>1.3 Analyze the implications and applicability of international best practices and experience to China taking into account the actual political structure in China.<br>1.4 Provide preliminary findings and recommendations for China to raise the public and stakeholders awareness consistent with the Stockholm Convention. |
| 2. | 2.1 Conduct mission to work with national counterparts, subcontractors, experts and stakeholders to impart international experience, present findings and recommendations, and facilitate discussion amongst key national stakeholders.<br>2.2 Review and comment on the proposals from national counterparts, subcontractors, experts and stakeholders for the tasks to achieve Output 10.<br>2.3 Assist national counterparts, subcontractors, experts and stakeholders to develop an operational plan, including a monitoring plan, for the awareness raising activities taken in different forms and targeted at different stakeholder groups and the general public. |
| 3. | 3.1 Receive, review and make suggestions for further work and improvements on counterpart reports before the review of them by key high-level national and international stakeholders. |
| 4. | 4.1 Conduct mission to facilitate the presentation and review by key high-level national and international stakeholders, of the draft final reports worked out by national counterparts, subcontractors, experts and stakeholders.<br>4.2 Make recommendations and proposals for further revision into the final reports, taking into account the concerns and standpoints from the review meeting of 4.1. |
| 5. | 5.1 Provide ad hoc support to national counterparts, subcontractors and national experts in regard to the awareness raising program development.<br>5.2 Prepare a final summary report summarizing findings, recommendations, decisions, lessons and experience, and submit to UNIDO for information and knowledge base building and dissemination. |

**Expected outcomes**

- Report on international best practices and experience in raising POPs awareness about the hazards and need for sound chemical management and their implications and applicability to China.
- Mission and final report comprising discussions, findings, recommendations, decisions, lessons and experience in relation to awareness raising activities taken in different forms and targeted at different stakeholder groups and the general public.

**Qualifications:**

The expert should be familiar with the public awareness and education requirements of the Stockholm Convention, including any guidance provided by its INC and, if appropriate, CoP.

The expert should have considerable professional experience of working with national agencies and experts to:

- Design public awareness materials suitable for a wide range of stakeholders and the general public;
- Develop accessible materials that communicate potentially complex or sensitive scientific issues and information via a wide variety of media including the internet;
- Devise and implement public awareness campaigns using a wide range of media and engaging, where possible, existing information dissemination vehicles such as health practitioners, agricultural extension networks, NGOs and the like.

**Language:** English, working knowledge of Mandarin an asset

# Annex D: TERMS OF REFERENCE FOR SUBCONTRACTS

## Subcontract 1: Policy and regulatory framework

### *1. General background information*

The policy and regulatory framework for POPs in China lack specific policy and regulations for POPs management and control. It is stipulated that issues related to POPs management are dispersed in different laws and regulations and that they are difficult to coordinate where some stipulations are impracticable. The NIP has identified the list of laws, regulations and standards of environmental protection legislation system related to POPs for revision or establishment in order to create a sound policy and regulatory regime for POPs management.

### *2. Aim of the project*

The overall objective of this 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.

### *3. Scope of contracting services*

Taking a cross-cutting principle, the objective of the subcontract is to study, revise or establish series of laws, regulations, technical standards and policies during 2007-2010 as shown in Table 1 to create a policy and regulatory enabling environment under which POPs reduction and control actions could occur and strengthen.

**Table 1: Legislations for the creation of an enabling policy and regulatory framework**

| Tier | Laws, regulations, rules and technical standards | Action | Responsibility |
|---|---|---|---|
| **Tier 1: Laws and regulations** | Law on Recycling Economy | Study | National People's Congress |
| | Law on Control of Toxic and Hazardous Chemical Substances | Study | National People's Congress |
| | Law on Ecologic Protection | Study | National People's Congress |
| | Law on Prevention and Control of Soil Pollution of China | Study | National People's Congress |
| | Law on Ecologic Protection of China | Study | National People's Congress |
| | Law on Biologic Safety of China | Study | National People's Congress |
| | Law on Compensation for Damages of Environmental Pollution of PRC | Study | National People's Congress |

| | | | |
|---|---|---|---|
| | Environment Protection Law of China | Study | National People's Congress |
| | Law on Environmental Impact Assessment of China | Study | National People's Congress |
| | Law on the Prevention and Control of Atmospheric Pollution of China | Study | National People's Congress |
| | Regulation on Environmental Pollution Control and Deadline Treatment | Study | State Council |
| | Regulation on the Administration of Environmental Inspection | Study | State Council |
| | Regulation on the Work of Environmental Supervision | Study | State Council |
| | Regulation on the Administration of Deadline Treatment of Environmental Pollution | Study | State Council |
| | Regulation on the Environment Protection of Countryside | Study | State Council |
| | Regulation on Environmental Management for Construction Project | Study | State Council |
| | Regulation on the Administration of Pesticide | Study | State Council |
| | Regulation on Safety Administration of Hazardous Chemical | Study | State Council |
| | Regulation on Environmental Administration of the First Import of Chemicals and the Import and Export of Toxic Chemicals | Study | State Council |
| | Regulation on the Administration of the Prevention and Control of Pollution in Protected Areas for Drinking Water Sources | Study | State Council |
| | Regulation on Administration of Reducing and Eliminating POPs | Study | State Council |
| **Tier 2: Administrative Rules** | Measures on Administration of Reducing and Eliminating POPs | Study | SEPA |
| | Rules on Environmental Administration of the First Import of Chemicals and the Import and Export of Toxic Chemicals | Amending | SEPA |
| | Implementing Measures on Regulation on Environmental Administration of the First Import of Chemicals and the Import and Export of Toxic Chemicals | Amending | SEPA |
| | Rules on Preventing the electric equipments including PCBs and their wastes polluting | Amending | SEPA |
| | Rules on the operation Administration of the electric equipments including PCBs | Amending | SEPA |

| | | | |
|---|---|---|---|
| | Measures on the Environmental Administration of Polluted Sites | Study | SEPA |
| | Rules on the Administration of Operation Licenses for Hazardous Wastes | Study | SEPA |
| | Rules on the Administration of the Import and Export of Solid Wastes | Study | SEPA |
| | Measures on Assessment of Damage of Environmental Pollution | Study | SEPA |
| | Measures on Compensation and Payment of Damage of Transboundary Environmental Pollution | Study | SEPA |
| | Administrative Regulations on POPs Reduction and Control | Making | Provincial Congress |
| **Tier 3: Technical policies, guidelines and standards** | Guiding Catalogue for Adjustment of Industrial Structure | Amending | NDRC |
| | Catalogue of Names of Hazardous Goods | Amending | SEPA |
| | Catalogue of Hazardous Chemicals | Amending | SEPA |
| | Guideline of Environment Impact Assessment Technologies of Construction Projects – General | Amending | SEPA |
| | Ambient Air Quality Standard(GB3095-1996) | Amending | SEPA |
| | Environmental Quality Standard for Surface Water (GB3838-2002) | Amending | SEPA |
| | Environmental Quality Standard for Ground Water (GB/T14848-93) | Amending | SEPA |
| | Standards for Irrigation Water Quality (GB5084-92) | Amending | SEPA |
| | Environmental Quality Standard for Soils (GB 15618-1995) | Amending | SEPA |
| | Water Quality Standard for Fisheries (GB 11607-89) | Amending | SEPA |
| | Sea Water Quality Standard GB3097-1997) | Amending | SEPA |
| | Air and Exhaust Air –PCDD/Fs Measurement | making | SEPA |
| | Isotope Dilution/HR Gas Chromatography - HD Mass Spectrum Method | making | SEPA |
| | Air and Exhaust Air – PCDD/Fs Measurement Biology Screening Method | making | SEPA |
| | Water Quality - PCDD/Fs Measurement | making | SEPA |
| | Isotope Dilution/ HR Gas Chromatography - HD Mass Spectrum Method | making | SEPA |
| | Water Quality - PCDD/Fs Measurement Biology Screening Method | making | SEPA |
| | Soil-Aggradations - PCDD/Fs Measurement | making | SEPA |
| | Isotope Dilution/HR Gas Chromatography - HD Mass Spectrum Method | making | SEPA |

| | | | |
|---|---|---|---|
| | Soil-Aggradations - PCDD/Fs Measurement Biology Screening Method | making | SEPA |
| | Solid Waste - PCDD/Fs Measurement | making | SEPA |
| | Isotope Dilution/ HR Gas Chromatography-HD Mass Spectrum Method | making | SEPA |
| | Solid Waste - PCDD/Fs Measurement Biology Screening Method | making | SEPA |
| | Cleaner Production Standards – Compulsory Cleaner Production Audit Procedure and Method | making | SEPA |
| | Cleaner Production Standards – Compulsory Cleaner Production Audit Assessment Method | making | SEPA |
| | General Design Rules of Gaseous Contamination Control Engineering- Catalysis Method | making | SEPA |
| | General Design Rules of Particulate Contamination Control Engineering | making | SEPA |
| | General Design Rules of Gaseous Contamination Control Engineering | making | SEPA |
| | Design Rules of Gaseous Contamination | making | SEPA |
| | Control Engineering-Absorption Method | making | SEPA |
| | General Design Rules of Bag-type Dust Removing Engineering | making | SEPA |
| | Design Rules of Gaseous Contamination Control Engineering- Adsorption Method | making | SEPA |
| | Guideline of Planning Environment Impact Assessment Technologies –Industry | making | SEPA |

The subcontract focuses on the three tiers of legislation:

- Tier 1: laws and administrative regulations that can be established or revised only by the National People's Congress, the Standing Committee of the National People's Congress, or the State Council;
- Tier 2: administrative rules and provincial regulations that can be established or revised by ministries and provincial congresses, and
- Tier 3: technical policies, guidelines, standards, and catalogues that can be established or revised by ministries.

For Tier 1, recommendations for relevant revisions or establishment will be provided by this project. For Tier 2, most of the legislative pieces will be enacted. All the technical policies, standards, guidelines and catalogues listed in Tier 3 will be issued.

***Activities***

The contractor of the subcontract should:

- Provide suggestions to the establishment or amendment of the laws and regulations related to POPs. 21 laws/regulations and 11 administrative rules in Tier 1 and 2 are to be focused.

- Draft National Administrative Rules on POPs Reduction and Control of Tier 2 to comprehensively govern the POPs production, distribution, use, import and export, waste, stockpiles and contaminated site, taking into account the experience and results from Activity 1.5.
- Incorporate Convention requirements defined in the NIP into the first 3 technical policies of Tier 3.
- Develop or revise the 30 technical policies, guidelines, standards of Tier 3 with the timeframe defined in the NIP in order to establish the standards system regarding POPs management in terms of environmental quality, product quality, pollutant emission and cleaner production.
- Promulgate and bring into effect the Provincial Administrative Regulations on POPs Reduction and Control to strengthen the provincial legislation regarding the Convention and NIP implementation in 3 demonstration provinces and disseminate the experience for replication in other provinces.

***Qualifications***

The contractor of the subcontract should be able to mobilize a group of international and domestic experts of environmental laws and policies with the following qualifications:

- Demonstrated experience with the regulatory requirements of the Stockholm Convention, including any guidance provided by its INC and, if appropriate, CoP, and of other relevant requirements arising from MEAs to which China is a party;
- Considerable professional experience of the assessment and analysis of existing legislation and of developing or modifying policy, regulatory and management instruments to meet national and international obligations;
- Professional experience of assessing impacts of the proposed changes using results from socio-economic impact studies;
- Demonstrated abilities in capacity development and the transfer of best practice regarding environmental policy, legislation, strategies and programmes;
- Considerable professional experience of working with key national stakeholders, international and national agencies and experts to:
  - Establish an open consultative process of review and acceptance by stakeholders of recommendations, building capacity in national counterparts as necessary
  - Describe principal recommendations and socio-economic study results to stakeholders and win their support;
  - Assist in taking forward the results of a consultation process into national planning documents.

***4. Language requirements***

All reports should be in Chinese and translated to English.

***5. Estimated budget:*** US$ 650,000

## Subcontract 2: Mechanisms and tools for financing

***1. General background information***

As of the end of 2005, China has leveraged US$ 76.23 million for the implementation of the Stockholm Convention, of which US$ 37.97 million from GEF, US$ 11.81 million from bilateral institutions and US$ 26.65 million from domestic sources. According to the NIP, China will need a total of approximately US$ 4,347.0 million to accomplish the identified actions in the 10 years to come (2006-2015).

Table 1: Estimated funds needed for NIP implementation

| NIP components | Estimated cost (1,000 RMB) | Estimated cost (1,000 US$) | Percentage (%) |
|---|---|---|---|
| Capacity building | 432,400 | 55,436 | 1.28 |
| Pesticide POPs and PCBs | 1,185,811 | 152,027 | 3.50 |
| UP-POPs | 28,312,210 | 3,629,771 | 83.48 |
| Stockpile and wastes | 2,365,278 | 303,241 | 6.97 |
| Research & Development | 1,617,404 | 207,359 | 4.77 |
| **Total** | **33,913,103** | **4,347,834** | **100.00** |

Of the total funds needed, about US$ 1,783.0 million is estimated as the incremental costs to be provided by GEF as the financial mechanism of the Convention and US$ 2,563.0 million as baseline costs to be leveraged from other multilateral and bilateral sources including other foreign capital, central and local governments, enterprises and the public.

With the transition of China's economy toward market-based operation, the country has established a diverse pattern of investment and financing channels for environmental protection. Basically, these include environmental protection investment in infrastructure construction; in retrofit and expansion by enterprises; in urban infrastructure construction as well as polluter-pay and user-pay fees, foreign capitals, national bonds, fund raised from BOT operations, environmental protection funds and fund raised from listed companies.

The feasibility of establishing a financial mechanism based on the current pattern of investment and financing channels for environmental protection to obtain sufficient needed fund for NIP implementation will be studied during the implementation of Stage I of this project. The study will also address the applicability of principles such as polluters-pay, users-pay, inclusion in state financing plans, and common but differentiated responsibilities to POPs issues so that a government directed, market based, multilateral and sustainable financial mechanism can be eventually established.

### *2. Aim of the project*

The overall objective of this 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.

### *3. Scope of contracting services*

The objective of this subcontract is to study feasible financing and investment tools and instruments to meet the required financial inputs for China to implement the Stockholm Convention.

#### *Activities*

The contractor of the subcontract should:

- Identify the principal stakeholders including central and local governments, enterprises, international communities and the public.
- Determine the principles and mechanism for responsibility sharing among the stakeholders for different types of activities, e.g. non-profitable and profitable activities.
- Explore public-private partnerships to involve private sectors and introduce competitions in investing and operating POPs reduction and control projects and study the economic and financial policies that will ensure the reasonable rate of return of the investments.
- Develop the strategy on financing mechanism for China to implement the Convention and the NIP.
- Hold fund raising workshops by inviting key stakeholders at home and abroad, including

related ministries, multilateral organizations, bilateral countries, financial institutions, private sectors and the public.

- Implement the strategy in one of the demonstration provinces to channel sufficient co-financing from multiple sources and improve the funding using efficiency in implementing POPs reduction and control activities.

***Outputs***

- Financial roles and responsibilities of stakeholders determined
- Market oriented mechanisms identified and relevant legislation and institutional strengthening requirements recommended
- Principles and mechanisms determined for non-profitable activities
- Suggestions and recommendations to remove barriers to market oriented operations, with special emphasis on BAT and BEP
- Financing and investment strategy report
- Agreement with demo province(s)
- Report of case study and results from the strategy implementation in demonstration province(s)

***Qualifications***

The contractor of the subcontract should be able to mobilize a group of international and domestic experts with the following qualifications:

- Extensive knowledge of environmental financing and economic instruments
- Practical experience in developing innovative and effective financing mechanisms for the implementation of national and international environmental strategies
- Demonstrated professional experience of project financing;
- Demonstrated high-level of drafting and inter-personal skills, including the presentation of results to supervisory bodies and work teams;
- Previous experience in China is an asset.

***4. Language requirements***

All reports should be in Chinese and translated to English.

***5. Estimated budget***: US$ 250,000

## Subcontract 3: Monitoring

***1. General background information***

Monitoring is a process involving sampling and analysis. With regard to the sampling infrastructure, few enterprises are equipped with emission sampling facilities and there is, at present, little or no sampling capacity amongst China's environmental monitoring stations.

However, with regard to the analysis infrastructure, China has established a nationwide environmental monitoring system consisting of 40 stations at the national or provincial level, 399 stations at the municipal level, and 1850 stations at county level. Most of the equipment and instruments in these monitoring system and networks meet only the requirements for the analysis of organochlorine pesticides (OCPs) and polychlorinated biphenyls (PCBs).

China has also established 13 dioxin analysis laboratories with approximately 7,239 samples tested from 2002 to 2004. In addition, seven regional laboratories of dioxin analysis are under construction.

Although the research laboratories, affiliated to the Chinese Academy of Sciences or to major universities, have recently received investment from the Government of China in order to equip themselves to undertake analysis of dioxins and furans, none of them is yet accredited to an international scheme and it is unlikely that they would have the capacity to undertake a major analytical programme in support of systematic and routine monitoring without major additional investment.

In addition, the limited research undertaken on dioxins and furans to date in China (about 7,239 samples in total) has been principally geared to determining their prevalence in certain limited and specific sites of environmental interest. A wide range of supportive sources has financed the analytical work. There is, however, no systematic monitoring of releases from anthropogenic sources.

The monitoring cost for one sample in China is now about US$1,000 (excluding sample collection cost), which emission producers cannot afford. The high cost is to a great extent attributed to the high cost of reference standards imported from abroad and the lack of national reference materials.

Lastly, the current monitoring for POPs is hampered by lack of qualified human resources and standardized management in existing dioxin analysis laboratories. Building up capacity in (i) standard operating procedures (SOPs) including extracting POPs from various samples (e.g. wastes, environmental media, human tissue, food and feed, etc.); and (ii) national laboratory accreditation system to assure the quality of POPs analysis and formulation of important regulations/standards for routine monitoring of POPs.

In addition to the monitoring activities (sampling and analysis) focused on PCDD/PCDF, monitoring of other pollutant emissions has of high relevance to the sustainability of this project. For example monitoring of particulates in stack emissions is within the obvious limitations a good surrogate for PCDD/PCDF. Particulates such as fly ash absorb very high proportions of PCDD/PCDF from the flue gases thus, any reduction in particulates will result in the reduction of PCDD/PCDF. Hence general emission control and monitoring can give important information on the amounts of PCDD/PCDF emission releases even in cases where more expensive specific analysis would not be affordable or feasible.

The significant capacity building requirements at national and provincial levels in China can neither be met solely from the financial resources likely to be available during the full project, nor can be delivered during the limited duration of the project. For these reasons, the project at its first stage of NIP implementation will only address the last barrier to monitoring and meanwhile focus on barrier removal activities of improving human resources and standardized management so that the existing basic national monitoring facilities can properly perform its preliminary monitoring function.

Activities for removal of other barriers mentioned above will be addressed in more details as recommendations and suggestions for capacity building program proposal to be developed in parallel with the implementation and as an output of the proposed project.

### *2. Aim of the project*

The overall objective of this 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.

### *3. Scope of contracting services*

The objective of this subcontract is to organize a series of extensive trainings to monitoring staff from national, provincial and county environmental monitoring stations, provincial Centres for Disease Control and Prevention (CDCs), and dioxin monitoring laboratories and improve the standardization and compatibility of monitoring methods and results among different monitoring stations.

***Activities***

The contractor of the subcontract should:

- Develop a unified monitoring programme for monitoring of POPs in environmental and human samples for effective evaluation in line with Article 16 of the Convention.
- Organize national training on monitoring of pesticide POPs and PCBs in environmental samples for provincial environmental monitoring stations and 3 of such trainings for the municipal and country environmental monitoring stations in the 3 demonstration provinces.
- Organize training for the existing dioxins monitoring laboratories on pre-treatment and monitoring of dioxins in sources and environmental and human samples.
- Organize a national training on monitoring of pesticide POPs and PCBs in human samples for the CDC laboratories in each province and 3 of such trainings for the municipal and country laboratories of CDC in 3 demonstration provinces.
- Organize inter-laboratory comparisons and calibrations with the participation from all the trained laboratories.

***Outputs***

- A unified monitoring programme for monitoring of POPs in environmental and human samples for effective evaluation
- Monitoring staff from 265 national, provincial and county level environmental monitoring stations trained with improved monitoring capacity
- Monitoring staff from 13 dioxins monitoring laboratories trained with improved monitoring capacity
- Monitoring staff from 33 CDCs trained with improved monitoring capacity
- Data and results for inter-comparison and inter calibration

***Qualifications***

The contractor of the subcontract should be able to mobilize a group of international and domestic experts with the following qualifications:

- Extensive knowledge of POPs environmental monitoring
- Practical experience in setting up national environmental monitoring systems, strengthening standard management of monitoring activities, and improving human resources for monitoring of POPs or substances alike POPs
- Demonstrated professional experience of project management and evaluation;
- Demonstrated high-level of drafting and inter-personal skills, including the presentation of results to supervisory bodies and work teams;
- Previous experience in China is an asset.

***4. Language requirement***

All reports should be in Chinese and translated to English.

***5. Estimated budget***: US$ 330,000

## Subcontract 4: Research and Development

### *1. General background information*

The coordination and cooperation among stakeholders for R&D is weak and the practical impact of R&D is poor. Although with China's ratification of the Convention, the relevant Chinese governmental departments, including MOST, Natural Science Foundation Committee (NSFC) and MOE, have come to realize the importance of providing support to R&D on POPs and some key research programme/projects. Most of these existing researches have not covered many key issues directly associated with the implementation of the Stockholm Convention (SC), such as technologies for unintentionally produced POPs (UP-POPs) release reduction and control and monitoring techniques, other technologies for using pesticide alternatives, destruction and disposal of PCBs and other POPs wastes and remediation/rehabilitation of contaminated sites. In addition, different ministries and departments often finance these studies without consultation, coordination and cooperation among key stakeholders. Lastly, the capacity to transfer the research results from research domain to application domain is poor and there are always complaints that the researches are often academic and of little practical use.

To address the barriers mentioned above, the project has designed activities to enhance the communication mechanism among ministries and main funding sources, to formulate policies that supports application of research results, to trace the progresses of R&D activities relevant to POPs, to promote the communication among researchers at home and abroad and to strengthen the linkages among research bodies, enterprises and the government. These activities will be conducted in line with the priorities identified in the NIP, which are as follows:

- Formation mechanism and release features of POPs from local sources;
- Model and application system of environmental risk assessment (ERA) and health risk assessment (HRA) for POPs and related materials/wastes/environmental phases;
- Screening techniques and related products for POPs contamination;
- Test methods for POPs in various media and monitoring techniques for the release of POPs from key sources;
- Localization of instruments, equipment, chemical standards, reagents and standard reference materials for POPs analysis in China;
- Alternative technologies or alternatives to POPs in specific fields;
- BAT/BEP measures to reduce the release of dioxins from key sources;
- Safe disposal technologies for POPs and POPs containing materials/wastes;
- Sound remediation solutions for POPs contaminated sites, involving the remediation of soil, groundwater, etc.; and
- Basic research on potential new POPs.

### *2. Aim of the project*

The overall objective of this 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.

### *3. Scope of contracting services*

The contractor of the subcontract shall:

- Establish the coordination mechanism between the Convention Implementation Office (CIO\SEPA) and the main R&D financial sources
- Regularly evaluate progress of national R&D activities related to POPs

- Establish incentive program for promoting R&D results that can effectively and efficiently support the Convention implementation
- Promote exchange and communication of R&D progress between the international and national academics.

***Outputs***

- SC requirements for alternatives or modified materials, products or processes disseminated and awareness rose among R&D funding institutes or associations;
- Coordination and cooperation mechanism established and more R&D funding could be available to support POPs related R&D program;
- R&D program/s with joint and integrated efforts of enterprises, academic institutes, and universities initiated and starts getting support from R&D finding sources to help its/the ir commercialization;
- Important and cross cutting release reduction technologies identified and starts drawing attention of government and funding source;
- Likely more involvement in international and national venture capital to support activities relevant to R&D
- POPs inclusion in national R&D Resources Application Guidelines
- Pilot R&D for POPs related alternative or for BAT initiated with co-financing from non-GEF sources
- National R&D activities with relevance to POPs evaluated and supervised by the expert advisory committee in the project

***Qualifications***

- The entity/ies must have R&D background and experience;
- The entity/ies must have knowledge about SC;
- The entity must have consultation experience in areas of environmental protection;
- The entity must have sufficient credit in POPs related program or chemicals related portfolios.

***4. Language requirement***

All reports should be in Chinese and translated in English

***5. Estimated budget***: US$ 291,000

## Subcontract 5: Technology Transfer

### *1. General background information*

Despite considerable investment and improvement in technology, there remains a large gap between the performances of industry in China with that of the developed world. This is particularly evident in pollution control technology and equipment. Some advances have been made in recent years to control air pollution emissions from large- and medium-scale enterprises and these may also have served to reduce emission of UP-POPs. However, a feature of many industrial sectors in China is the prevalence of relatively small-scale enterprises, where the efficiency of energy and material utilization are not only much lower than that of OECD countries but also lower than that of many developing countries (India for example).

Although the government has realized the importance of restructuring economy towards more efficiency, less material consumption and more environmental and ecological protection, and is

actively pursuing the policies towards economic restructuring, cleaner production and circular economy, few policy makers and professionals are familiar with legislation and regulations and technological policies which resulted in substantial investments in other countries such as Denmark, Germany, India, the Netherlands, U.K. and U.S.A., let alone with the simultaneous integration of the Stockholm Convention requirements.

Barrier also exists in mainstreaming the BAT and BEP requirements in current technology application. The application of BAT and BEP, which is prevalence in other countries, is seldom seen in China. On the contrary, cases can be found where practices and technology use in China are inconsistent with BAT and BEP requirements. For example, in medical waste disposal sector, the prevalent technology use is incineration, rather than the non-combustion technologies that have been widely applied in many countries.

The capacity for commercialization of BAT and BEP is poor due to the poor linkages among researchers, entrepreneurs and government officials. BAT is just at the beginning stage of commercialization in the Chinese market. Research institutes, while providing highly competent researchers, are not equipped for the production and marketing function. Entrepreneurs do not have easy access to the information of BAT and BEP. Government professionals familiar with the state of the art in several BATs have no more than a passing familiarity with market finance, commercial enterprise operation and economic project appraisal.

To address the barrier for NIP implementation, the project has designed activities under Outcome 5 to (i) bridge the linkages among government, enterprises and industrial associations; (ii) build up the platform for information exchange between technology owners and users; (iii) provide the enterprise with technical assistances to phase in BAT/BEP application and facilitate access to technology users to cost effective pesticide alternatives and PCB and waste disposal technologies; and (iv) promote with other countries the regional and global cooperation on technology transfer.

### *2. Aim of the project*

The overall objective of this 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.

### *3. Scope of contracting services*

The contractor of the subcontract will perform the following activities:

- Establish an assistance-oriented Technology Transfer Promotion Centre;
- Enable the centre to work as a technology information clearinghouse;
- Assist enterprises in optimizing the technical and engineering design;
- Assist enterprises in optimizing the technical and engineering design;
- Establish a technological coordination and cooperation platform; and
- Evaluate the barriers in technology transfer and propose the instruments to remove identified barriers for continuous improvement of the TTPC performance.

***Outputs***

Technology transfer promotion centre established and on operation characterized by:

- An internet based information clearinghouse established to promote BAT/BEP， the substitutes, or modified products, materials and processes to prevent the release of POPs and enhance the overall chemical management;
- Protocol developed for the sharing and exchange of relevant data and information between international and national partners. For instance, knowledge and experiences relevant to biotechnology, cleaner production, technology transfer and investment promotion and

chemical leasing disseminated from UNIDO to national counterpart to facilitate national counterpart's worldwide communication and cooperation;

- Special technical association for SC compliance established and regular meetings held and reports generated;
- Services provided to enterprises to enable them obtain international and national environmental certificates or registrations and the resulted earnings make the operations of TTRC sustainable, for example, services provided to China's enterprises to help them obtain EU registration in line with EU's REACH requirements;
- More co-financing funds available through TTRC efforts in promoting bilateral and multilateral cooperation;
- Liaison established with relevant government agencies, industrial associations, research institutes, and universities;
- Improved cooperation between anti-POPs technical initiatives with national program and plans for economic restructuring, circular economy, and the development of environment protection industry; and
- Opportunities identified for technology upgrading through analyses on current and forthcoming national technology development programs and plans and though more detailed cooperation with enterprises that are members of TTRC;

***Qualifications***

The entity must have experience in multilateral and bilateral international cooperation;

The entity must have consultation experience in areas of environmental protection;

The entity must have designated staff dealing with technology transfer and investment promotion;

The entity must have sufficient credit in POPs related program or chemicals related portfolios.

***4. Language requirement***

All reports should be in Chinese and translated to English

***5. Estimated budget***: US$ 390,000

## Subcontract 6: Data collection, processing and reporting

***1. General background information***

According to the requirements of the Convention and its COPs, POPs data should be collected and processed to meet the reporting requirements. Parties shall:

- Pursuant to Article 15, report to the Conference of the Parties on the measures it has taken to implement the provisions of the Convention and on the effectiveness of such measures in meeting the objectives of the Convention;
- Pursuant to para 2, Article 16, provide comparable monitoring data on the presence of the chemicals listed in Annexes A, B and C of the Convention as well as their regional and global environmental transport;
- Pursuant to para (g) of Part II in Annex A and adhering to the requirement and format issued by COP1 for PCBs reporting, transmit every 5 years a progress report on PCBs elimination;
- Pursuant to para 4 of Part II in Annex B and adhering to the requirement and format decided and issued by the Conference of the Parties in consultation with the World Health Organization (WHO), provide every three years to the Secretariat and the WHO information on the amount used, the conditions of such use and its relevance to that Party's disease management strategy.

During the development of the National Implementation Plan (NIP), the CIO has established the POPs information centre for managing the information system of projects. The POPs management information system (POPs MIS) is made up of a three-tier network system including an internal platform for supporting decision making, a collaborative platform for information exchange and an internet website for information dissemination.

However, the POPs MIS has not been made fully functional to meet the POPs data collection, processing and reporting due to various reasons. First, the concepts of POPs reduction and control are still relatively new to China. Basic information regarding their properties, harms and impacts are still unavailable and needs to be transferred from the developed countries to China. Secondly, the existing information is largely stored independently in the academia and in government departments and lack of a feasible and effective information collection mechanism among relevant ministries and industry associations. Thirdly, awareness and capacity for POPs information collection and reporting at local levels are low and lack of various platforms and channels to produce and distribute environmental awareness raising materials.

Based on the Convention requirements, the NIP has also identified the data and information collection and management as a priority action that needs to be implemented.

### *2. Aim of the project*

The overall objective of this 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.

### *3. Scope of contracting services*

The objective of this subcontract is to fulfil all data and information needs by institutional strengthening in data collection, processing and reporting.

#### *Activities*

The contractor of the subcontract shall undertake the following activities:

- Identify the needs of information required by the Convention Secretariat, COPs, relevant international organizations and domestic agencies
  - National reporting, questionnaires, and monitoring data etc. required by the Convention Secretariat, COPs
  - Basic information regarding POPs properties, harms and impacts
  - NIP requirements on data and information collection and dissemination
- Establish information collection mechanism and channels from government departments, industrial associations, enterprises and academia, etc.
  - Collect all available data and information
  - Identify sources for the missing data and information from various stakeholders
  - Feasibility study and recommendation of the establishment a mechanism and channel for data and information collection
- Develop the guidelines for information collection, analysis and dissemination
  - Guidelines for information collection, analysis and dissemination of pesticide POPs
  - Guidelines for information collection, analysis and dissemination of PCBs
  - Guidelines for environmental monitoring and analysis of POPs
  - Train the relevant managerial officials about the guidelines
  - Mainstream the requirements in the guidelines into government departments, academic or industrial associations

- Establish and implement the procedures for information collection on UP-POPs based on the current Pollutants Discharge Reporting and Registration System in demonstration provinces
  - Evaluate the current Pollutants Discharge Reporting and Registration System
  - Feasibility study and recommendation of the procedures for information collection on UP-POPs
  - Establishment of the procedures in demonstration provinces
  - Train the relevant managerial officials about the procedures
  - Mainstream the requirements in the procedures into government departments, academic or industrial associations.
- Obtain, analyze and disseminate information mainly through the MIS and website of the POPs information centre
  - Develop reader-friendly database under the framework of MIS for the collected data and information
  - Integrate of the information collected by the on-going regular projects and projects under planning into the POPs MIS
  - Obtain data and information according to the developed guidelines
  - Implement the procedures for information collection on UP- POPs in demonstration provinces
  - Analyze and disseminate information mainly through the MIS and website
- Supportive work: communicate with relevant stakeholders, participate missions and site visits, and provide necessary inputs requested by the project expert team and the project management office
  - Minutes of coordination meetings, training workshops, and thematic seminars
  - Reports of missions and site visits
  - Progress reports of above mentioned activities and implementation reports for the project's M&E activities
  - Provide suggestions for the solution of accidental issues and provide advice on miscellaneous project matters.

***Outputs***

Detailed deliverables are described as follows.

- Work plan: overall work plan will be completed in accordance with this TOR and delivered within one week after the contract signature.
- Supportive reports or presentations for the workshops, seminars, communication and coordination, missions and site visits, etc. to be delivered within 5 days before and after each event.
- Deliverables on the activities implementation:
  - Report on the data and information needs required by the Convention Secretariat, COPs, relevant international organizations and domestic agencies
  - Report on the establishment of a mechanism and channel for data and information collection
  - Guidelines and procedures for information collection, analysis and dissemination
  - Training materials for managerial and technical staff
  - Database with sufficient information collected under the MIS
  - Dissemination materials shown on the website
- Suggestions or comments on the corrective countermeasure for accidental issues.

***Qualifications***

The constructor must have:

- Extensive knowledge of information management
- Practical experience in developing chemicals management information systems that involves collection of data from multiple departments, sources, and levels
- Knowledge of institutional and regulatory framework for chemical management in China
- Experience with implementation of international projects
- Good communication and writing skills in English

The following qualifications will be helpful:

- Knowledge of the Stockholm Convention on POPs

***4. Language requirement***

All reports should be in Chinese and translated to English

***5. Estimated budget***: US$ 490,000

## Subcontract 7: Institutional strengthening for decision making and legislation enforcement

***1. General background information***

The national Convention implementation structure has insufficient capacity for comprehensive coordination, decision making support, organization and execution and monitoring and supervision. The National Coordination Group (NCG) is not well supported for scientific decision making. Decisions are often made hastily, without a well-conducted consultation with relevant experts from technology, economy, environment and sociology disciplines as well as with a broad range of stakeholders and a neglect of deep social survey in advance. The CIO, a pivot of the Convention implementation in China, is extremely understaffed, with only 3 regular staff and a few short-term contracted staff, whose capacity is too small to effectively accomplish its mission and needs to be strengthened.

Barriers exist on capacity in mainstreaming the requirements of the Convention compliance into the current environmental management instruments. Aspects of particular interest as far as the current environmental management instruments are concerned would be:

- the existing environmental impact assessment (EIA) that might be important in investment planning to prevent the establishment of new sources of unintentional production of POPs;
- the registration system for pollutant discharges;
- the total emission control system;
- the pollution levies system and non-compliance fines;
- the voluntary cleaner production programme as a vehicle for the progressive migration of industry to BAT/BEP; and
- the Law of Solid Waste pollution prevention and control and its associated listing of hazardous wastes.

Although the role of these current practices have not been brought into full action and their real impact are often questioned mainly due to their inherent defects, which are often associated with systematic institutional changes that can not be completed in a short period of time, the integration of the requirements of the Stockholm Convention into the current practices will certainly create a concerted efforts in achieving national and global benefits and will also allow funds currently being invested to achieve local environmental benefits and thus achieve greater global environmental benefits simultaneously at an economic cost. To this point, the relevant stakeholders, in particular the

government agencies at central and local level with different institutional mandates and responsibilities have to cooperate to eliminate the associated barriers in coordination, organization and enforcement due to limited resources, information, knowledge, personnel and finance.

Local governments are the major bodies for NIP implementation but their implementation capacities are the weakest. The environmental protection departments and other related departments at various local levels have not yet incorporated POPs into their routine agenda for monitoring and enforcement. So far, there has been a lack of approach and operational practices to devolve responsibilities for the Convention compliance to local government levels and to encourage the respective local community participation. Measures have to be taken to ensure the establishment of linkages between the Convention requirements and local economic, environmental and social development programs. With the related regulations, standards, guidelines, procedures and mechanisms to be established for POPs management, their institutional capacity for monitoring and enforcement on POPs issues needs a lot of improvement to meet the requirements of the Convention implementation.

Lastly, there is a lack of incentives for enterprises to take measures to comply with the Convention compliance. Enterprises are the main entities that bear the obligations of the Convention. Their reaction and attitudes towards the POPs related policies directly affect the outcome of the implementation of the NIP. So far, many polluting enterprises are inefficient and can neither afford end-of-pipe treatment nor take up precautionary measures within-process changes. Most industrial firms do not acknowledge the fact that violating environmental laws and standards represents an offence. There are also perverse incentives for enterprises to take measures against pollution. Economic instruments are relatively under-developed and most of them are either only at the trial stage or generate adverse consequences through pricing distortion. For example, the system of pollution levies and non-compliance fines has been of limited impact as these levies and fines are set very low and enterprises opt simply to pay the fees rather than invest in pollution prevention and reduction facilities. The introduction of planned improvement to the system is hampered by the current weak monitoring capacity and public sensitivity to price adjustment, especially when unemployment rate is rising in many areas.

Overcoming these barriers and integrating the requirements of the Convention will require considerable capacities at both national and provincial levels within the government, industry and a variety of key stakeholder communities.

As a first step to overcome the barriers mentioned above, the project has designed several activities as mentioned and grouped under Outcome 6. The intention is to (i) establish an expert consultation board to support the important decision making at top levels; (ii) enhance the implementation of NIP by devolving responsibilities to provincial government through developing provincial implementation plan (PIP) at focal provinces; (iii) promote, through planning, training and organization at central and provincial levels, the application of current available environmental protection instruments to meet the several obligations that are mentioned with deadlines in the Convention; and (iv) demonstrate enterprise self-discipline practices through encouraging voluntary elimination and reduction of POPs and establish respective incentive measures.

### *2. Aim of the project*

The overall objective of this 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.

### *3. Scope of contracting services*

The contractor/s of the subcontract shall perform the following activities:

- Strengthen NCG and CIO
- Establish 3 Local Convention Implementation Units
- Develop training materials and conduct training for environmental protection departments at central, regional and local levels

- Launch joint inspections
- Establish and strengthen self-policing and supervision

***Outputs***

- National Advisory Committee (NAC) established and functional
- Responsibilities for the implementation of NIP assigned to pilot province
- More effective and efficient responses of CIO to the COPs
- LCIUs established and responsive to CIO requirements
- The application of existing environment protection instruments to meet the obligations of the Convention at central and local level
- Training conducted for relevant inspection and enforcement departments, targeting the application of cleaner production and EIA
- Inspections for POPs release conducted in key areas and sectors
- Enterprise self-policing practices for voluntary elimination and reduction of POPs encouraged and provided with incentive measures.

***Qualifications***

The entity/ies must have experience in multilateral and bilateral international cooperation

The entity/ies must have consultation experience in areas of environmental protection

The entity/ies must have designated staff dealing with technology transfer and investment promotion

The entity/ies must have sufficient credit in POPs related program or chemicals related portfolios.

***4. Language requirement***

All reports should be in Chinese and translated to English

***5. Estimated budget***: US$ 460,000

## Subcontract 8: Evaluation and follow-up

***1. General background information***

Article 16 of the Stockholm Convention on POPs states that, "*commencing four years after the date of its entry into force of the Convention and periodically thereafter at intervals to be decided by the Conference of the Parties, the Conference shall evaluate the effectiveness of this Convention*". The evaluation shall be conducted on the basis of available scientific, technical and economic information including:

- Reports and other monitoring information provide pursuant paragraph 2 of Article 16;
- National reports submitted pursuant to Article 15; and
- Non-compliance information provided pursuant to the procedures to be established under Article 17.

Decision SC-1/13 agreed to initiate arrangements to provide itself with comparable monitoring data on which to base its evaluation of the effectiveness of the Convention.

SC-2/13 agrees to complete the first effectiveness evaluation at its fourth meeting, in 2009.

Evaluation is also a process of continuously providing feedback to enable the lessons and experiences to be incorporated into further improvements in the NIP implementation. Therefore, China needs the findings, conclusion or recommendations of evaluations to judge the performance of NIP

programmes, facilitate improvements, generate knowledge and support decision-making due to the uncertainties of NIP implementation, constrained by resources, knowledge and information.

By undertaking evaluation, the CIO and other participants can make the changes in procedures and practices. Such participatory evaluations can help to enhance shared understanding and communications among stakeholders, support and reinforce the NIP programme intervention, increase engagement, self determination and ownership, nurture an evaluation culture within the CIO and other related organizations.

However, the evaluation, in particular the ongoing and post-evaluation, is the weakest link in China's policy process. As plans, programmes and policies are seldom subject to the ongoing and post evaluation, the relevant administrative costs are always high and policy failures in enforcement cannot be altered in time. For example, the widespread incineration of medical waste resulted in the increase in dioxin emission. Unfortunately, such practice is not easy to change due to the inherent rigid decision making process that can not be adapted to the changing environment.

To this end, evaluation needs has to be set up in order to obtain awareness of the impact of on-going activities and to get an insight of economic, environmental and social values after the completion of any plan/s or programmes.

### *2. Aim of the project*

The overall objective of this 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.

### *3. Scope of contracting services*

The objective of this subcontract is to address the barrier of the evaluation, build-up institution and evaluate NIP implementation to meet the requirements of the Convention and the continuous improvement in the NIP implementation.

#### *Activities*

The contractor of the subcontract shall undertake the following activities:

- Preparatory work for evaluation and capacity enhancement of evaluation staff:
  - Identification of the needs for evaluation
  - Guideline and procedures of the evaluation
  - Training workshop for evaluation working team composed of representatives from advisory committees, governments, industry associations, enterprises and the public.
- Conduct all the evaluations required by the Convention and those outlined in the NIP:
  - Monitor and evaluate the overall progress of various implementing stakeholders
  - Evaluate the results and impacts from implementation of action plans on pesticide POPs, PCBs, UP-POPs and strategy on stockpile, wastes and contaminated sites
  - Conduct the comprehensive evaluation of the effects of the NIP implementation by integrating the above evaluation results, taking into account the guidance from the Convention for effective evaluation
- Further assess the capacity needs for NIP implementation, focusing on the industries and provinces.
  - Based on the evaluation findings, provide suggestion for proper administrative adjustments of strategies and action plans
  - Further assess the capacity needs at systematic, institutional and individual levels
  - Prepare a proposal for the capacity building

  - Mobilize financing for the proposal.
- Widely disseminate and share the experience and knowledge
  - Prepare materials for discussion and dissemination of the evaluation findings
  - Hold a workshop to discuss and disseminate the evaluation findings to international and domestic stakeholders
  - Disseminate the results through various forms of media including Internet, publications, CDs and brochures
- Supportive work: communicate with relevant stakeholders, participate missions and site visits, and provide necessary inputs requested by the project expert team and the project management office
- Minutes of coordination meetings, training workshops, and thematic seminars
- Reports of missions and site visits
- Progress reports of above mentioned activities and implementation reports for the project's M&E activities;
- Provide suggestions for the solution of accidental issues and provide advice on miscellaneous project matters.

***Outputs***

Detailed deliverables are described as follows.

- Work plan: overall work plan will be completed in accordance with this TOR and delivered within one week after the signature of the contract.
- Supportive reports or presentations for the workshops, seminars, communication and coordination, missions and site visits, etc. should be delivered within 5 days before and after each event.
- Deliverables on the activities implementation:
  - Report on the requirement of evaluation by the Convention and NIP
  - Guideline and procedures of the evaluation
  - Evaluation report of the NIP implementation
  - Suggestions for proper administrative adjustments of strategies and action plans
  - Proposal for further capacity building for NIP implementation
  - Materials for experience and knowledge dissemination.
- Suggestions or comments on the corrective countermeasure for accidental issues.

***Qualifications***

The contractor of the subcontract must have:

- Practical experience and knowledge of evaluation
- Knowledge of institutional and regulatory framework for chemical management in China
- Experience with implementation of international projects
- Good communication and writing skills in English
- Knowledge of the Stockholm Convention on POPs

***4. Language requirement***

All reports should be in Chinese and translated to English

***5. Estimated budget***: US$ 241,000

## Subcontract 9: Public awareness

### *1. General background information*

During the NIP development, the stakeholders in various sectors and levels have been mobilized to participate in numerous training and consultation workshops. Their awareness of POPs issues, particularly at the national level, has improved significantly. However, due to the limited time and resources allocated to awareness promotion campaign, awareness is still insufficient, particularly at the local levels where economic development is generally seen as of greater importance rather than environmental protection. The decision and lawmakers are reluctant to mainstream POPs issues into the general policy and legislative framework and put them on their agenda as a priority. The enterprises have not been fully motivated to take measures on POPs. The public has little exposure to information on POPs and is far from being reactive to POPs concerns.

Public awareness needs to be addressed through:

- Awareness raising: Present gaps include absence of popular materials/media containing information about POPs, no related content in existing programmes of environmental protection dissemination and education and insufficient participation of relevant organizations.
- Making information accessible: The judgment should be based on facts. These must be collected from research results, evaluated and organised and transformed into accessible information via different routes: websites, educational and informational printed matter, broadcasts, etc. Since there is still a lack of data and many of these are very uncertain, these shortcomings should also be clearly communicated.
- Creating opportunities for participation: Individuals may not restrict their decisions to concern protection measures for themselves as individuals. They may also wish to influence the decisions of others, such as industries or legislators. Present gaps include a very weak tradition of public participation and lack of channels for such participation.

### *2. Aim of the project*

The overall objective of this 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.

### *3. Scope of contracting services*

The objective of this subcontract is to create a public supportive environment by raising the public awareness for the Stockholm Convention implementation in China

***Activities***

The contractor/s of the subcontract will perform the following activities:

- Establish a platform for effective POPs information distribution by mobilising various news media, including TV, radio, newspaper and Internet
- Establish partnerships with environmental protection promotion programmes, campaigns, NGOs, community based organizations (CBOs), academia and schools as vehicles for raising public awareness of POPs issues
- Prepare materials including popular readings, TV programmes, movies, brochures, posters, etc. for raising public awareness of POPs issues
- Distribute POPs information and public materials that takes advantage on the established platform and partnerships
- Implement a special programme for public awareness promotion to prepare peasant tailored materials and avail POPs information to rural areas using special distribution channels such

as mobile mini buses mobilising NGO volunteers

***Outputs***

- Established contacts with various news media, including TV, radio, newspaper, and Internet
- Partnerships established with other environmental protection promotion programs of the governments, NGOs, community based organizations (CBOs), and schools
- Materials available for distribution
- Percentage of target audience in key areas exposed to information regarding POPs risks

***Qualifications***

The entity/ies must have experience in public awareness raising

The entity/ies must have media related experience in areas of environmental protection

The entity/ies must have designated staff dealing with program design and promotion

The entity/ies must have sufficient credit in POPs related program or chemicals related portfolios.

***4. Language requirement***

All reports should be in Chinese and translated to English

***5. Estimated budget***: US$ 400,000

## Subcontract 10: Education

***1. General background information***

According to the Convention, the targeted groups for educations should mainly include:

- managerial personnel, e.g. government officers
- Technical personnel, e.g. scientists, engineers, workers
- Educators and students.

***2. Aim of the project***

The overall objective of this 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.

***3. Scope of contracting services***

The contractor of the subcontract shall perform the following activities:

- Study the related education curriculum to identify gaps in meeting the requirements of the Convention and develop proposals to relevant agencies to modify the related curriculum.
- Prepare textbook and training materials and train at least 1 teacher or researcher of environmental studies from each of the 100 universities, colleagues and research institutes to enable them to impart POPs knowledge to students.
- Prepare textbooks and training materials and train at least 1 teacher from each of the 300 middle schools and primary schools to enable them to popularise POPs knowledge to students.
- Carry out demonstrations of POPs education in selected universities, middle schools and primary schools. Evaluate the experience derived from the demonstration in order to improve the POPs education system.
- Design and implement an on-line POPs education programme involving high-quality teachers organized by the CIO and university students attending the programme with approvals by

their schools.
- Organize training workshops for mayors of cities.

***Outputs***

- Proposal transmitted to Ministry of Education to modify the POPs related curriculum
- Textbook and training materials provided and the trained teachers (universities)
- Textbook and training materials provided and the trained teachers (middle and high schools)
- Number of registrations to on-line POPs education program
- Number of participants in workshop to exchange teaching experiences
- Students trained in universities, high and middle schools;
- Experience derived from demonstration education programs for improvement
- Number of mayors participating the trainings

***Qualifications***

The entity/ies must have experience in public education
The entity/ies must have media related experience in areas of environmental protection
The entity/ies must have designated staff dealing with delivery of education
The entity/ies must have sufficient credit in POPs related program or chemicals related portfolios.

***4. Language requirement***

All reports should be in Chinese and translated to English

***5. Estimated budget***: US$ 329,000