

# Terminal Evaluation Review form, GEF Evaluation Office, APR 2014

## 1 . Project Data

Summary project data			
GEF project ID		3572	
GEF Agency project ID		200000301	
GEF Replenishment Phase		GEF-4	
Lead GEF Agency (include all for joint projects)		UNIDO	
Project name		Regional Plan for Introduction of BAT/BEP Strategies to Industrial Source Categories of Stockholm Convention of Annex C of Article 5 in ESEA Region	
Country/Countries		Regional: Cambodia, China, Indonesia, Lao PDR, Mongolia, Philippines and Thailand	
Region		Asia	
Focal area		Chemicals	
Operational Program or Strategic Priorities/Objectives		POPS-1	
Executing agencies involved		Ministry of Environment in ESEA countries	
NGOs/CBOs involvement		[Philippine Institute of Chemical Engineers – through consultations Spirax Sarco - consultations Institute of Technology of Cambodia (ITC) – Beneficiary	
Private sector involvement		[Companies such as Great Honour Textile Factory Limited; Phnom Penh; Lao Brewery; Lao Agro, Vientiane; Red Bull Distillery, Bangkok; Oleen (Oil Production Co.), Bangkok - Beneficiaries	
CEO Endorsement (FSP) / Approval date (MSP)		06/30/10	
Effectiveness date / project start		09/03/10	
Expected date of project completion (at start)		03/31/12	
Actual date of project completion		03/31/14	
Project Financing			
		At Endorsement (US \$M)	At Completion (US \$M)
Project Preparation Grant	GEF funding	0.05	
	Co-financing		
GEF Project Grant		0.95	U/A
Co-financing	IA own	0.40	U/A
	Government	1.69	U/A
	Other multi- /bi-laterals	0.09	U/A
	Private sector		
	NGOs/CSOs		
Total GEF funding		1.0	U/A
Total Co-financing		2.18	U/A
Total project funding (GEF grant(s) + co-financing)		3.18	U/A
Terminal evaluation/review information			
TE completion date		2014	
TE submission date			
Author of TE		Mr. Mario Marchich	

<b>TER completion date</b>	January 2015
<b>TER prepared by</b>	Ritu Kanotra
<b>TER peer review by (if GEF EO review)</b>	Joshua Schneck

## 2. Summary of Project Ratings

Criteria	Final PIR	IA Terminal Evaluation	IA Evaluation Office Review	GEF EO Review
Project Outcomes	MS	S		S
Sustainability of Outcomes	N/R	N/R		MU
M&E Design	N/R	N/R		S
M&E Implementation	N/R	N/R		S
Quality of Implementation	N/R	N/R		S
Quality of Execution	N/R	N/R		UA
Quality of the Terminal Evaluation Report	N/A			MU

## 3. Project Objectives

### 3.1 Global Environmental Objectives of the project:

As stated in the Project Document (PD), the project's Global Environmental Objective aims at contributing to global monitoring of Unintentionally Produced Persistent Organic Pollutants (UP-POPs) releases using a regional programmatic approach in order to avoid that each country adopts different solutions to implement Best Available Technologies (BAT)/ Best Environmental Practices (BEP), depending on relevant local standards, laws and regulations as well as on local social and economic conditions.

UP-POPs are among the POPs chemicals listed in the Stockholm Convention that have chronic adverse effects on human health and the environment. Some of these chemicals are used extensively in industrial processes of rapidly growing economies of region of East and South East Asia (ESEA). The introduction of BAT/BEP strategies is the key approach to reduce and eliminate UP-POPs and other pollutants released to the environment. But adoption of BAT/BEP activities amongst participating countries in ESEA was restricted for reasons such as lack of public awareness on POPs, inadequate national standards and regulatory frameworks; limited experience on BAT/BEP and UP-POP monitoring and lack of coordination between various government department and private companies on their activities related to UP-POP. UNIDO established the ESEA BAT/BEP forum in 2007 for formulating a regional action plan in order to avoid that each country adopts different solutions to implement BAT/BEP. This project was designed to use ESEA BAT/BEP Forum as a platform to promote regional cooperation and collectively update knowledge on technology transfer, sampling analysis, research for development and contribute to global monitoring of UP-POPs releases.

### 3.2 Development Objectives of the project:

As stated in the PD, the project's Development Objective aims at establishing a BAT/BEP regional coordination mechanism and platform for reducing and, where feasible, eliminating Unintentionally Produced Persistent Organic Pollutants (UP-POPs) releases by capacity building at regional level and for implementing BAT/BEP measures in East and South East Asia (ESEA) region including UP-POPs sector monitoring. The immediate objectives of the project are:

**Outcome 1:** Expansion of regional guidelines and guidance on BAT/BEP, addressing specific features of the industry in the region, common practices, including local and traditional practices and related socio-economic considerations.

**Outcome 2:** Establishment of BAT/BEP regional coordination mechanisms for developing human resources, technical capabilities and networking capacities.

**Outcome 3:** Continuous reduction of UP-POPs in priority source categories using new tools and methodologies. No targets for POPs reductions are provided in the PD.

**Outcome 4:** Contribution of ESEA regional UP-POPs inventory to the UNEP UP-POPs global monitoring program, to apply pollution prevention measures and improve release monitoring.

**Outcome 5:** Establishment of the project management at regional level, stakeholder partnership and monitoring and evaluation.

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

No changes were made in Global Environmental and Developmental Objectives, or activities during implementation.

#### 4. GEF EO assessment of Outcomes and Sustainability

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

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

Please justify ratings in the space below each box.

4.1 Relevance	Rating: Satisfactory
<p>The project is relevant to both participating countries and the GEF. As stated in the PD, the objectives of the project are in line with the needs of the region that has experienced rapid expansion and modernization of industry over last few years but has poor pollution abatement and management systems. Some of the chemicals used extensively in the rapidly growing industries in region are known to have adverse human and/or environmental effects. Although governments have been endeavoring to establish a legal and institutional framework for sound management of chemical and hazardous waste, certain issues such as lack of coordination amongst countries in region and lack of institutional and human resource capacity to deal with pollutants, remained unaddressed. This project was designed at reducing and, where feasible, eliminating Persistent Organic Pollutants (POPs) releases, by producing detailed plan for East and South East Asia (ESEA) countries to adopt and introduce Best Available Technology (BAT)/ Best Environmental Practices (BEP) strategies. The project addresses the countries' obligations regarding the Stockholm Convention (SC), to develop action plan or, where appropriate, a regional action plan to reduce total release of chemicals listed in Annex C. It is also in accordance with the implementation of BAT/BEP related action plans of the participating countries as reflected in their respective National Implementation Plan (NIP). In light of the above, project has been supported by the governments to receive the necessary inputs for reduction of Persistent Organic Pollutants (POPs) and BAT/BEP implementation.</p>	

Absence of effective pollution prevention, control and management systems affecting significant segment

of the industry sector in ESEA region, is also an international concern. The project has been formulated under the GEF 4 focal area strategy and specifically Strategic Program 1: strengthening capacities with the objective to build the capacities required in eligible countries to implement in a sustainable and effective manner, the action plans as reflected in their National Implementation Plans to meet their obligations to the Stockholm Convention. The project was designed to ensure close cooperation and coordination with the related GEF projects and other initiatives on BAT/BEP in the region (PD, 38).

<b>4.2 Effectiveness</b>	<b>Rating: Satisfactory</b>
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The terminal evaluation has rated the effectiveness of the project as 'satisfactory'. This review assigns the same rating to the project. The project has demonstrated the effectiveness of the introduction of Best Available Technologies (BAT) and Best Environmental Practices (BEP) methodologies in the selected industrial sectors and, moreover, has demonstrated that in applying these practices, there are concrete possibilities for the reduction and elimination of unintentionally produced Persistent Organic Pollutants (POPs) releases.

The participating countries translated BAT/BEP guidelines in their in their national languages- China, Thailand and Mongolia have published versions of BAT/BEP guidelines in their local language, while English version is acceptable in Philippines and Lao PDR, Cambodia translated fossil fuel fired utilities and the industrial boiler guidelines. Guidelines for the fossil fuel-fired utilities and industrial boiler sector fully incorporated regional experience gained through the pilot demonstration activities undertaken during the project (TE 46). The project has built capacities within the participating countries in the area of BAT and BEP, particularly in the four priority sectors targeted - Fossil fuel-fired utilities and industrial boilers, metallurgical industry, open burning and waste incineration.

Workshops on regulatory and policy frameworks on BAT/BEP held with relevant stakeholders raised recognition and importance of the regulation framework amongst regulators and authorities in participating countries. Besides the international workshops and seminars organized by all the participant countries, national workshops/meetings were organized to disseminate the awareness of the danger of POPs releases, promoting BAT/BEP strategies within each country. Project seems to have successfully attained effects foreseen on capacity building and awareness generation on BAT/BEP activities, however, project only covers only a selected number of facilities (max two for each country), it being a demonstration project. According to TE, only if findings and improvements proposed in these pilot facilities are diffused to other facilities will it truly impact on the global and human environmental exposure to POPs.

The project has strengthened the capacity of laboratory personnel on sampling methods; preparation and analysis of UP-POPs and project has helped for the establishment of certified monitoring laboratories. However, some activities such as the ones related to sampling and monitoring of UP-POPs releases in the metallurgical and waste incinerator sectors have not been fully achieved, as initial funding was not found to be sufficient to complete the forecasted activities

The regional coordination platform has been established and strengthened through capacity building and in plant assessment of BAT/BEP in selected sectors. The project has helped development of the regional cooperation forum as a platform for information exchange and technical discussions. It enabled coordination and adoption of terms of cooperation with Stockholm Convention and Basel Centers of China and Indonesia, developed regional coordination for R&D as well as technology transfer related to BAT/BEP. According to terminal evaluation, task force was formed to work on the legal aspects of BAT/BEP

implementation and gaps on the legislations assessed, but the enforcement was delayed due to lack of standards and infrastructure such as laboratories in participating countries.

Project led to the establishment of project management at regional level through establishment of BAT/BEP forum and their regular regional meetings; national coordinators and other experts recruited, with M&E framework designed and implemented according to GEF M&E procedures. However, project management information system (MIS) and project website to disseminate information to stakeholders is only partially accomplished.

4.3 <b>Efficiency</b>	Rating: <b>Satisfactory</b>
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TE doesn't provide any rating. But according to information given in TE, it seems that most of the project activities were held as per schedule and satisfactorily completed with the available funds. Project was extended by four months until end 2012. The extension was granted to organize the final Steering Committee Meeting in December 2012 and a final project workshop with the participation of all member countries. Project used available resources and already existing facilities of the participating countries have been able to achieve reductions in POPs releases..

4.4 <b>Sustainability</b>	Rating: <b>Moderately unlikely</b>
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TE doesn't provide a rating for project sustainability. However, based on the information provided in TE, this TER assesses the sustainability of project outcomes to be moderately unlikely. Project created awareness on POPs releases amongst various sections of society and demonstrated use BAT/BEP strategies in few industrial sectors, but phasing out of POS releases would need continuation of activities involving budget commitments and investments in technical assessments as well as additional facilities such as laboratories, equipment and trained technicians for conducting sampling and analysis enabling enforcement of regulations in future. Unless additional funds are generated, possibility of sustaining most of the outcomes appears moderately unlikely.

Risks to the sustainability of project outcomes are assessed further along the following four dimensions:

- **Environmental sustainability – Unable to assess.** No information provided in the TE on the aspect of environmental threats to the sustainability of project outcomes.
- **Financial sustainability – Moderately unlikely** – Based on limited information presented in TE, financial sustainability of project is rated as moderately unlikely. Project involved fostering knowledge transfer; technical assessments in selected enterprises and creating awareness among relevant stakeholders on Best Available Technologies (BAT)/Best Environmental Practices (BET) strategies and danger of Persistent Organic Pollutants (POPs). Further replication and continuation of these activities would involve budget commitments. According to TE, 'after three years of activities and in the absence of adequate funding (each assessment in the industry with collecting of samples and their analysis is quite expensive) it is difficult to foresee and assess what can be the future sustainability of the project'. But TE also mentions that two full size projects on priority sectors related to the project have already been approved by GEF (TE, 11). Other full-sized projects addressing thermal processes in the metallurgical sector and waste incineration drafted and are pipelined for the next GEF cycle. Successful involvement of private sector in the project may also perhaps bring in investments for continuation of adoption of BAT/BEP in companies in future. TE reports that the pilot facilities industries identified in the project have already made investments in adopting BAT/BEP in their respective companies (TE,11). But TE also mentions that

assessment for taking samples and analyzing emissions in each industrial sector can be very expensive, and additional finances would be required to undertake such assessments and adoption of BAT/BEP strategies. TE recommends that 'participating countries should foresee an appropriate budget to face the danger of Unintentionally Produced Persistent Organic Pollutants (UP-POPs), but environmental issues don't seem to be a top priority of the governments at present' (TE, 13).

- **Socio-political sustainability – Unable to assess.** No information provided in the TE on the aspect of environmental threats to the sustainability of project outcomes.
- **Institutional sustainability – Moderately unlikely** - TE doesn't assess this aspect nor provide a rating. But based on the information drawn from various other sections of TE, possibility of institutional sustainability is assessed as moderately unlikely. Project has established project coordination units with national coordinators in each participating country that can strengthen future coordination and cooperation mechanism established for the region. The sustainability of the activities of the project should continue to be demonstrated through curricula and training on BAT/BEP in pilot universities and laboratories, introduced during project. Awareness generation and trainings conducted during /project have strengthened capacity of the government staff, but according to TE, that may not be enough to cope with the environmental pollution control, as number of trained staff is not adequate, and may not be placed on the right job after being trained. The project through trainings on dioxin analysis and laboratory establishment has contributed to the improvement of enforcement of the laws. However, according to the TE, investments would be needed to establish more facilities such as laboratories and appropriate equipment and trained technicians for conducting sampling and analysis.

## 5. Processes and factors affecting attainment of project outcomes

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

TE doesn't provide any information on this aspect.

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

It seems most of the project activities were conducted as per schedule. According to TE, project was extended by four months until end 2012. The extension was granted to organize the final Steering Committee Meeting in December 2012 and a final project workshop with the participation of all member countries. The purpose of the workshop was to present the results of the project outputs at the end of its implementation activities. The extension also allowed the conduct of the final project evaluation exercise. <sup>[13]</sup><sub>SEP</sub>

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

Ownership of the project by the participating countries is reflected in satisfactory achievement of

outcomes such as establishment of Best Available Technologies (BAT) / Best Environmental Practices (BEP) regional coordination mechanisms; preparation of regulatory and policy frameworks on BAT/BEP although its enforcement is limited due to lack of standards and infrastructure in some countries. Project also received active participation of various government departments across the countries (TE, 30). As part of initiatives under the project, Ministry of Environment and Protection of China issued 'guidelines on best available technologies for pollution prevention and control for medical waste treatment and disposal'; BAT/BEP requirements were amended into the 'Law on Environmental Impact Assessment of Mongolia' (TE, 47), reflecting commitment from China and Mongolia to bring in regulatory changes. According to TE, apart from international workshops and seminars organized by central management of the project in UNIDO, countries themselves also organized national workshops/meetings to disseminate awareness of the dangers of POPs releases, promoting national level BAT/BEP strategies.

Since project was relevant to national priorities and policies and addressed countries' commitment to relevant international conventions (Stockholm Convention), activities undertaken as part of project got due support from all the participating governments. TE doubts and probably it's difficult to predict, the level of support that will be offered by participating government in terms of budget and work plan commitment, to sustain initiatives once project is over.

## 6. Assessment of project's Monitoring and Evaluation system

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

Please justify ratings in the space below each box.

<b>6.1 M&amp;E Design at entry</b>	Rating: <b>Satisfactory</b>
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TE doesn't provide any rating or comments on M&E design at entry. This review assigns satisfactory rating to this aspect based on M&E plan presented in the PD. M&E plan presented in PD is very comprehensive as it allocated budget and assigned responsibilities to concerned parties and indicated time frames for various types of monitoring and evaluation activities to be undertaken during project. The milestones to be achieved and assessed at various stages of project are clearly defined. SMART indicators for impacts and results and means of verification for monitoring at specific locations are also specified in project log frame, with the understanding that these will be reviewed and finalized during project implementation. Lines of reporting are also clearly established with a view to enable learning and corrective measures taken during various stages of project. Establishment of monitoring and evaluation system is defined as one of the outcomes of the project to ensure that M&E is well integrated into project implementation.

<b>6.2 M&amp;E Implementation</b>	Rating: <b>Satisfactory</b>
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TE doesn't provide any rating but based on limited evidence, this review assigns satisfactory rating to the M&E implementation. According to TE, 'project has been monitored by the Project Manager of UNIDO, by the annual ESEA BAT/BEP Forum Board Meetings and the Project Steering Committee meetings'. Since, design and implementation of M&E was one of the expected outcomes of the project, TE reports successful achievement of this outcome. However, the project failed to establish management information system (MIS) and project website to disseminate information to stakeholders was only



partially achieved, and absence of this important aspect of project documentation might impact future learning and replication. The TE does not state the reasons that these M&E targets were not met, nor explore its impact.

## 7. Assessment of project implementation and execution

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

Please justify ratings in the space below each box.

<b>7.1 Quality of Project Implementation</b>	Rating: <b>Satisfactory</b>
<p>TE doesn't provide rating, but based on information drawn from various sections of TE and PD, this review assigns satisfactory rating to the quality of project implementation. Given the scope and time frame of the project, project was well designed and as per schedule to achieve expected outcomes. According to TE, assistance by UNIDO by providing experts in BAT/BEP has been acknowledged as very helpful by the participants of all the countries involved. Project also used some of the facilities created by UNIDO, for instance some in plant trainings in selected priority sectors were held through the national Cleaning Production Centers created by UNIDO. Participating countries appointed national focal points that worked directly with UNIDP in implementation and monitoring project activities (TE, 8). Project received good support from UNIDO, since project was in line with UNIDO's mandate to support and promote implementation of Stockholm Convention regarding sustainable industrialization, with special attention to chemical polluting substances. According to TE, the project manager of UNIDO was actively involved in implementation and monitoring of the project and as noted by TE, the 'project benefitted from UNIDO's technical expertise and monitoring'. (TE pg ?)</p>	
<b>7.2 Quality of Project Execution</b>	Rating: <b>Unable to Assess</b>

TE doesn't comment or provides rating to quality of project execution.

## 8. Assessment of Project Impacts

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

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

TE doesn't document any such changes.

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

TE doesn't report any socioeconomic changes, nor were such changes expected, given the time frame and scope of project.

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

#### a) Capacities

Project facilitated capacity building and knowledge transfer; technical assessments in selected enterprises and created awareness among relevant stakeholders on BAT/BET strategies and danger of POPs, setting the stage for developing environmental standards, policies and legislations in participating countries. According to TE, the project, based on the lessons learned from demonstration activities, has contributed in strengthening regulatory measures and institutional capacities, addressing environmentally sound waste management, particularly concerning municipal waste and agricultural residues priorities.

Capacity built in dioxin sampling and analysis is an important output of the project. The issue of the dioxin emission from industry became a matter of concern and received attention at governmental and enterprise level. As a result national technical capabilities were strengthened to measure dioxin and furans in stack gas samples. Some enterprises, involved through awareness generation and capacity building, have also understood the importance and the risk of dioxin and furan and have invested in BAT/BEP methodologies and equipment to reduce the emissions and improve energy efficiency. According to TE, project has given sufficient experience to develop policies and national programs on regular monitoring of Dioxin/Furan emission and also development of a system of incentive mechanisms for the BAT/BEP application in industries.

#### b) Governance

According to TE, creation of a regional coordination mechanism enabling sharing of experiences, technical support and expertise amongst participating countries, has been one of the significant achievements of the project (TE, 11). Project's achievements in terms of strengthening some of the policies include:

- Mongolia, Lao PDR and Cambodia have drafted their Boiler Act

- China has issued “Guidelines on Best Available Technologies for Pollution Prevention and Control for Medical Waste Treatment and Disposal” in January 2012. These guidelines serve as technical guidance document.
- The BAT/BEP requirements were amended into the “Law on Environmental Impact Assessment of Mongolia” in 2012 as a prerequisite to start a BAT/BEP project.
- Thailand has issued dioxin standards for priority source categories including metallurgical, waste incinerator and crematoria.

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

TE doesn’t report any unintended impacts.

8.5 Adoption of GEF initiatives at scale. Identify any initiatives (e.g. technologies, approaches, financing instruments, implementing bodies, legal frameworks, information systems) that have been mainstreamed, replicated and/or scaled up by government and other stakeholders by project end. Include the extent to which this broader adoption has taken place, e.g. if plans and resources have been established but no actual adoption has taken place, or if market change and large-scale environmental benefits have begun to occur. Indicate how project activities and other contextual factors contributed to these taking place. If broader adoption has not taken place as expected, indicate which factors (both project-related and contextual) have hindered this from happening.

Some of the policies listed in TE and that have been strengthened through project include:

- Mongolia, Lao PDR and Cambodia have drafted their Boiler Act
- China has issued “Guidelines on Best Available Technologies for Pollution Prevention and Control for Medical Waste Treatment and Disposal” in January 2012. These guidelines serve as technical guidance document.
- The BAT/BEP requirements were amended into the “Law on Environmental Impact Assessment of Mongolia” in 2012 as a prerequisite to start a BAT/BEP project.
- Thailand has issued dioxin standards for priority source categories including metallurgical, waste incinerator and crematoria.
- According to TE, some enterprises involved in the project through trainings and awareness generation, have understood the importance and the risk of dioxin and furan and have invested in BAT/BEP methodologies and equipment to reduce the emissions and improve the energy efficiency.
- Regional BAT/BEP guidelines translated by participating countries, as part of project activities, but have not been adopted as policy in all participating countries. China and Thailand have adopted the BAT/BEP guidelines and have established policies for priority industrial source categories including fossil fuel fired utilities, metallurgical <sup>[17]</sup>sector and waste incineration sectors.

According to TE, positive changes that occurred as a result of the activities of the project and some new technical solutions or innovative approaches have been identified, could be further utilized nationally or internationally, with good replication possibilities.

## 9. Lessons and recommendations

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

Key lessons and good practices/approaches mentioned in TE are as follows:

1. Proper and regular monitoring of the project gives the opportunity to adjust the production of the outputs according to the initial planning. <sup>[1]</sup><sub>[SEP]</sub>
2. Regional projects need much more effort to meet the timelines than single country projects, where the action does not need the consensus of several national partners. <sup>[1]</sup><sub>[SEP]</sub>
3. Improving technological capabilities is a considerable help for the country for not depending on the changes of the global markets and for improving the effectiveness and the efficiency of the productivity. <sup>[1]</sup><sub>[SEP]</sub>
4. Technology is a combination of several actions, such as adoption of BAT/BEP methodologies, purchase of machineries, international expertise, training, study tours and of new technological processes developed in the enterprises themselves. <sup>[1]</sup><sub>[SEP]</sub>
5. Implementation or adaptation of innovative technological changes for BAT/BEP methodologies may involve investments and consequently raise the problem of financing for the concerned enterprises. <sup>[1]</sup><sub>[SEP]</sub>
6. Outputs expected from project should be quantified during project preparation, that can make it easier during evaluation to compare achieved results from expected or forecasted outputs.
7. Sudden changes in the global economic and political environment may have a strong influence on the implementation of a project and often may not be foreseen in the project preparation phase. An efficient project management, good coordination, seriousness and dedication of the implementing project partners, may mitigate the possible negative effects of any economic difficulty. <sup>[1]</sup><sub>[SEP]</sub>
8. Sense of ownership of a country in implementing a project is of fundamental importance for achieving results of good quality. In the case of a regional project if a partner is scarcely committed, this may negatively influence the global progress of the implementation of the entire project. <sup>[1]</sup><sub>[SEP]</sub>

9.2 Briefly describe the recommendations given in the terminal evaluation.

- It is recommended that countries continue monitoring of reduction of dangerous industrial emissions and support projects in the area of Unintentionally Produced Persistent Organic Pollutants (U-POPs), considering that new chemicals have been added to the list of the Stockholm Convention.
- The policies and regulations experimented and established due to the activities developed by the project should be shared and disseminated to other countries for replication.
- Future trainings should involve only relevant personnel who are directly involved in operational and technical activities, administrative and political personnel shouldn't participate in such trainings and study tours. Trainings should have a pre selection criteria and duration of training should be extended with an additional week.
- Future projects to foresee the establishment of certified laboratories, delivery of appropriate equipment and trained technicians for conducting the sampling and the analysis.
- Governments should apply strong follow up actions to enforce policies and guidelines developed through project. The policies issued should be used as a basis/guidance for the industry to

implement Best Available Techniques and adopt Best Environmental Practices.

- Countries in the region should foresee actions for continuing regional cooperation for monitoring and analysis. A laboratory that can be utilized in the region for UNIDO or government projects needs to be established.
- Information exchange within companies, national and international, is crucial for awareness generation and enhancing opportunities for better process efficiency.
- In future, more time need to be planned to select enterprises willing to participate in pilot demonstration, in order to make sure that these enterprises possess appropriate technology for meaningful experiments and operations.

## 10. Quality of the Terminal Evaluation Report

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

Criteria	GEF EO comments	Rating
To what extent does the report contain an assessment of relevant outcomes and impacts of the project and the achievement of the objectives?	TE lists various achievements under the project but doesn't link it sufficiently with the expected outcomes and impacts of the project.	MS
To what extent is the report internally consistent, the evidence presented complete and convincing, and ratings well substantiated?	The report is internally consistent but evidence presented not complete at many places, making it sometimes difficult to arrive at conclusions. For instance, TE brings out issue of lack of commitment from governments to address environmental issues, however, it doesn't specify how this aspect impacted or going to impact the outcomes under current project.	MS
To what extent does the report properly assess project sustainability and/or project exit strategy?	Information assessing sustainability and exit strategy of project was very limited. It could also be due to nature of project implemented across various countries and perhaps it's difficult to build perspective in short time of the evaluation for projects involving various sites and stakeholders.	MU
To what extent are the lessons learned supported by the evidence presented and are they comprehensive?	Some of the lessons listed in TE are project design and management related had no connection with the evidence or main body of the report.	MU
Does the report include the actual project costs (total and per activity) and actual co-financing used?	TE doesn't provide any details on actual cost of project, or actual co-financing	HU
Assess the quality of the report's evaluation of project M&E systems:	TE provides limited evidence to substantiate rating provided to M&E system. It could perhaps again be due to nature of project spread over different countries involving multiple stakeholders.	MU
<b>Overall TE Rating MS</b>		<b>MU</b>

$$0.3 \times (4+4) + 0.1 \times (3+3+1+3) = 2.4 + 1 = 3.4 = \text{MU}$$

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