



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

TERMS OF REFERENCE

Independent terminal evaluation of the UNIDO project:

Environmentally Sustainable Management of Medical Waste in China

UNIDO Project number: GFCPR07008

UNIDO SAP ID: 104036

GEF ID: 2927

JANUARY 2017

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I. Project background and overview

1. Project factsheet

Project Title	Environmentally Sustainable Management of Medical Waste in China
UNIDO project No. and/or SAP ID	GFCPR07008 / SAP ID: 104036
GEF project ID	2927
Region	Asia and the Pacific
Country(ies)	The People's Republic of China
GEF focal area(s) and operational programme	GEF-4: POPs SP-2; SP-3; OP-14; OP-10
GEF implementing agency(ies)	UNIDO
GEF executing partner(s)	FECO/SEPA
Project size (FSP, MSP, EA)	FSP
Project CEO endorsement / Approval date	31 October 2007
Project implementation start date (First PAD issuance date)	20 November 2007
Original expected implementation end date (indicated in CEO endorsement/Approval document)	30 November 2012
Revised expected implementation end date (if applicable)	30 June 2017
Actual implementation end date	30 June 2017
GEF project grant (excluding PPG, in USD)	11,650,000
GEF PPG (if applicable, in USD)	350,000
UNIDO co-financing (in USD)	100,000 (In-kind)
Total co-financing at CEO endorsement (in USD)	33,157,140 (cash+in-kind)
Materialized co-financing at project completion (in USD)	
Total project cost (excluding PPG and agency support cost, in USD; i.e., GEF project grant + total co-financing at CEO endorsement)	45,157,140
Mid-term review date	January-March 2011
Planned terminal evaluation date	March-May 2017

(Source: Project document)¹

¹ Project information data throughout these TOR are to be verified during the inception phase.

2. Project background and context

China, one of the largest countries in the world, is located in Eastern Asia, between North Korea and Vietnam and shares a border with 14 countries. It has a population of over 1.3 billion, with almost 79% of the population being below the age of 55. Population growth rate is around 0.5%. Literacy rate of population is over 96%. Around 6% of the population lives below the poverty line. Total unemployment is a little over 4.1%;

China has a GDP of USD 10.36 trillion (official exchange rate, 2014 estimate) and a GDP real growth of 7.3% (2014), which has been over 7% since 2012. Services constitute the highest contribution to GDP with over 48%, followed by industry with almost 43% and the smallest contribution by agriculture with a little less than 10%. The same is however not reflected in the distribution of the labour force engaged in these sectors – more or less around one-third of the population is engaged in the 3 sectors respectively.

China is world leader in gross value of agricultural output; agricultural products are rice, wheat, potatoes, corn, peanuts, tea, millet, barley, apples, cotton, oilseed, pork, and fish. Industries are in the following sectors: mining and ore processing, iron, steel, aluminum, and other metals, coal, machine building, armaments, textiles and apparel, petroleum, cement, chemicals, fertilizers, consumer products (including footwear, toys, and electronics), food processing, transportation equipment, including automobiles, rail cars and locomotives, ships, aircraft, telecommunications equipment, commercial space launch vehicles, and satellites. Growth rate of industrial production is estimated to be at 7.3% (2014).

Export commodities are electrical and other machinery, including data processing equipment, apparel, furniture, textiles, and integrated circuits. Main export partners are US (16.9%), Hong Kong (15.5%), Japan (6.4%), South Korea (4.3%) (2014 est.). It imports electrical and other machinery, oil and mineral fuels, nuclear reactor, boiler, and machinery components, optical and medical equipment, metal ores, motor vehicles, and soybeans. Main countries for imports are South Korea, Japan, US, Taiwan, Germany, and Australia.

China is party to various international environmental agreements, such as Antarctic-Environmental Protocol, Antarctic Treaty, Biodiversity, Climate Change, Climate Change-Kyoto Protocol, Desertification, Endangered Species, Environmental Modification, Hazardous Wastes, Law of the Sea, Marine Dumping, Ozone Layer Protection, Ship Pollution, Tropical Timber 83, Tropical Timber 94, Wetlands, Whaling. Current environmental issues in China are air pollution (greenhouse gases, sulfur dioxide particulates) from reliance on coal produces acid rain; China is the world's largest single emitter of carbon dioxide from the burning of fossil fuels; water shortages, particularly in the north; water pollution from untreated wastes; deforestation; estimated loss of one-fifth of agricultural land, desertification; and trade in endangered species.

The People's Republic of China ratified the Stockholm Convention on POPs on 13th August 2004. Article 5 of the SC requires the Parties to take measures to reduce or, where feasible, eliminate releases of PCDD/PCDF and other unintentionally produced POPs (UPOPs) in Part I from sources listed in Parts II and III of Annex C of the Convention. Waste incinerators, including coincinerators of municipal, hazardous or MW or of sewage sludge are on the foremost top of the list. In the National Implementation Plan (NIP) of China for the implementation of the SC on POPs, MW incineration is listed as a key PCDD/PCDF release source and, pursuant to the "Action Plan for Reduction and Elimination of PCDD/PCDF Releases"; priority should be given to the application of best available techniques and best environmental practices (BAT/BEP).

Medical waste (MW) is generated by medical institutions and research facilities in the delivery of healthcare that includes diagnosis, treatment and research. Medical waste is bio-hazardous with a potential to spread infection and has much higher potential than common municipal wastes to cause pollution during disposal because of its characterization. Medical waste therefore requires safe management throughout the complete life cycle in order to safeguard public health and protect the environment.

The overall objective of the project is to reduce and ultimately eliminate the releases of unintentionally produced POPs and other globally harmful pollutants into the environment, and assist China in implementing its relevant obligations under the Stockholm Convention.

The project is funded through a GEF grant, amounting to USD 11,650,000 (and PPG Grant of USD 350,000), a UNIDO contribution of USD 100,000 (In-kind); and the counterparts' co-financing of USD 32,977,000 (cash and in kind), which amount to total project budget of USD 44,727,140.

Project implementation started in November 2007 and the initial project end date was in November 2012. The same was revised to December 2016. **Actual implementation end date is 30 June 2017.**

The project will be subject to GEF Monitoring and Evaluation rules and practices of the GEF and UNIDO. A mid-term review (MTR), as well as a terminal evaluation (TE), is foreseen in the project document. Within the frame of the project monitoring and evaluation plan, an external MTR was carried out in January 2011 (MTR report, July 2011). The terminal evaluation is scheduled to take place from **March-May 2017.**

3. Project objective and structure

The overall objective of the project is to reduce and ultimately eliminate the releases of unintentionally produced POPs (UP-POPs) and other globally harmful pollutants into the environment and assist China in implementing its relevant obligations under the Stockholm Convention.

7 substantive components have been developed, in addition to project management and M&E, to achieve the project objectives:

Component 1: Regulatory framework for medical waste (MW) management and performance levels for MW disposal facilities in place

Component 2: Institutional capacity for integrated MW management

Component 3: Systems management and application of BEP

Component 4: Demonstration of BAT using thermal combustion

Component 5: Demonstration of BAT/BEP for MW thermal non-combustion, chemical treatment or other appropriate non-combustion treatments

Component 6: Integrated and coordinated medical waste management and disposal system

Component 7: Strategy and action plan for the adoption of BAT/BEP for medical waste management and disposal

4. Mid-term review

The **MTR** was carried out by an independent evaluation consultant and a national consultant in January 2011.

Main findings of the MTR are as follows (see MTR report, July 2011):

Through the development of this project, awareness at central governmental level has been further raised for the need to properly manage MW in order to minimize the formation and release of dioxins and thus meeting its obligation towards the SC for the management of medical wastes in China. As a result of the project, China has included the BAT/BEP guidelines for the management of medical wastes in its 12th Five Year program. High levels of

funding are available for implementation not only for the project activities but also for other POPs related projects.

The effectiveness of the project was considered to be satisfactory. Some of the objectives stated in the project document had not been achieved at the time of the MTR. However, activities to meet those objectives were near completion. The project also suffered some delays due to different reasons. Chances for sustainability and sustained impact were considered to be very high, owing to, inter alia, the high national commitment.

Further details can be obtained from the MTR report (July 2011), which will also provide inputs to the terminal evaluation.

5. Project implementation and execution arrangements

UNIDO: is the implementing agency for the project. A project focal point was to be established within UNIDO to assist with project execution

Convention Implementation Coordination Group (CICG): China established the NIP development leading group in 2003 and it became the National Leading Group for implementation of POPs

Convention Implementation Office (CIO): The CIO is part of SEPA and is responsible for coordinating the day-to-day management of the SC implementation in China

National, Provincial and Municipal Steering Groups: The project will establish a national steering group by drawing upon resources from related ministries or commissions in charge of inter alia development and reform and environment, to provide the project team with political guidance and inter-ministerial coordination support

National Project Management Team (NPMT): will be composed of staff from SEPA, relevant ministries and other relevant agencies. SEPA will designate a coordinator/team leader. The NPMT will be responsible for the day-to-day management and execution of the project

Project Expert Team (PET): The project would recruit a **Chief Technical Advisor (CTA)**, a **National Technical Advisor (NTA)**, and other relevant technical experts

Local Project Management Offices (LPMOs): Since the project would involve a large number of medical institutions, and medical waste treatment facilities nationwide, the PMOs would support the NPMT in management and coordination

Provincial PMOs: would be established in the 6 provinces with staff from relevant provincial governmental agencies

Municipal PMOs: would be established in the 6 municipalities, with staff from relevant municipal governmental agencies

6. Budget information

The project is funded through a GEF grant, amounting to USD 11,650,000 (and PPG Grant of USD 350,000), a UNIDO co-financing of USD 100,000 (in-kind); and the counterparts' total co-financing of USD 32,977,000 (cash and in-kind) which amount to total project budget of USD 44,727,140.

Some financial details are shown below:

Financing Plan Summary For The Project (\$)

	<i>Project Preparation</i>	<i>Project</i>	<i>Total</i>
GEF financing	350,000	11,650,000	12,000,000
Co-financing (Cash and In-kind)	313,400	33,077,140	33,390,540
Total	663,400	44,727,140	45,390,540

(Source: CEO endorsement document)

Project budget:

Project outcomes	GEF (\$)	Co-Financing (\$)	Total (\$)
1. Regulatory framework for medical waste (MW) management and performance levels for MW disposal facilities in place	373,785	514,295	888,080
2. Institutional capacity for integrated MW management	1,409,485	3,490,185	4,899,670
3. Systems management and application of BEP	628,125	1,696,375	2,324,500
4. Demonstration of BAT using thermal combustion	2,432,600	10,799,600	13,232,200
5. Demonstration of BAT/BEP for MW thermal non-combustion, chemical treatment or other appropriate non-combustion treatments	1,984,450	7,600,450	9,584,900
6. Integrated and coordinated medical waste management and disposal system	1,137,200	1,287,200	2,424,400
7. Strategy and action plan for the adoption of BAT/BEP for medical waste management and disposal	2,565,085	5,830,755	8,395,840
8. Project Management budget/cost and M&E	1,119,270	1,858,280	2,977,550
Total	11,650,000	33,077,140	44,727,140

(Source: CEO endorsement document)

Expected co-financing source breakdown is as follows:

Name of Co-financier (source)	Classification	Type	Project
UNIDO	IA	In-kind	100,000
US Government	Bilateral Agency	Grant	200,000
Ministry of Finance	National Government	Grant	3,800,000
Ministry of Health	National Government	In-kind	4,500,000
SEPA/Nationwide Investment Plan	National Government	Grant	15,000,000
Private Enterprises	Private Sector	Grant	9,557,140
Total Co-Financing			33,157,140

(Source: CEO endorsement document)

UNIDO GEF-grant disbursement breakdown:

Item	Disbursement (expenditure, incl. commitment) upto 2012	Disbursement in 2013	Disbursement in 2014	Disbursement in 2015	Disbursements in 2016	Total disbursement (in USD) (2007-06 May 2016
Contractual Services	6,861,030.00		13,755.16	410,001.00		7,284,786.16
Equipment	3,229,569.54			-0.01		3,229,569.53
Internat. Cons/Staff	324,014.62	74,800.81	31,449.64	88,955.66	122,284.21	641,504.94
Local Travel	97,964.06	83,433.84	20,064.13	12,110.35	10,412.28	223,984.66
Nat. Consult./Staff	19,314.72	16,806.28	1,563.93	15,404.17	38,232.20	91,321.30
Other Direct Costs		37.84	551.74	-82.44		507.14
Staff Travel						0.00
Train/Fellowsh/Study	28,279.53	563.93				28,843.46
Total (in USD)	10,560,172.47	175,642.70	67,384.60	526,388.73	170,928.69	11,500,517.19

Source: SAP database, 06 May 2016 (to be updated during the evaluation inception phase)

II. Scope and purpose of the evaluation

The terminal evaluation (TE) will cover the whole duration of the project from its starting date in November 2007 to the estimated completion date in **June 2017**. It will assess project performance against the evaluation criteria: relevance, effectiveness, efficiency, sustainability and impact.

The TE has an additional purpose of drawing lessons and developing recommendations for UNIDO and the GEF that may help improving the selection, enhancing the design and implementation of similar future projects and activities in the country and on a global scale upon project completion. The terminal evaluation report should include examples of good practices for other projects in the focal area, country, or region.

The terminal evaluation should provide an analysis of the attainment of the project objective(s) and the corresponding technical components or outputs. Through its assessments, the terminal evaluation should enable the Government, the national GEF Operational Focal Point (OFP), counterparts, the GEF, UNIDO and other stakeholders and donors to verify prospects for development impact and promoting sustainability, providing an analysis of the attainment of global environmental objectives, project objectives, delivery and completion of project outputs/activities, and outcomes/impacts based on indicators, and management of risks. The assessment includes re-examination of the relevance of the objectives and other elements of project design according to the project evaluation parameters defined in chapter VI.

The key question of the terminal evaluation is whether the project has achieved or is likely to achieve its main objective of reducing and ultimately eliminating the releases of UP-POPs and other globally harmful pollutants into the environment, and assist China in implementing its relevant obligations under the Stockholm Convention; further whether the project interacted with the Nationwide Investment Plan and promoted the widespread adoption of BAT/BEP in the evolving medical waste management infrastructure and industry in a manner that reduces adverse environmental impacts and protects human health.

III. Evaluation approach and methodology

The terminal evaluation will be conducted in accordance with the UNIDO Evaluation Policy², the UNIDO Guidelines for the Technical Cooperation Programme and Project Cycle³, the GEF Guidelines for GEF Agencies in Conducting Terminal Evaluations⁴, the GEF Monitoring and Evaluation Policy⁵ and the GEF Minimum Fiduciary Standards for GEF Implementing and Executing Agencies⁶.

It will be carried out by an independent evaluation team, as an independent in-depth evaluation using a participatory approach whereby all key parties associated with the project are kept informed and regularly consulted throughout the evaluation. The evaluation team will liaise with the UNIDO Independent Evaluation Division (ODG/EVQ/IEV) on the conduct of the evaluation and methodological issues.

The evaluation team will be required to use different methods to ensure that data gathering and analysis deliver evidence-based qualitative and quantitative information, based on diverse sources, as necessary: desk studies and literature review, statistical analysis, individual interviews, focus group meetings, surveys and direct observation. This approach will not only enable the evaluation to assess causality through quantitative means but also to provide

² UNIDO. (2015). Director General's Bulletin: Evaluation Policy (UNIDO/DGB/(M).98/Rev.1)

³ UNIDO. (2006). Director-General's Administrative Instruction No. 17/Rev.1: Guidelines for the Technical Cooperation Programme and Project Cycle (DGAI.17/Rev.1, 24 August 2006)

⁴ GEF. (2008). Guidelines for GEF Agencies in Conducting Terminal Evaluations (Evaluation Office, Evaluation Document No. 3, 2008)

⁵ GEF. (2010) The GEF Monitoring and Evaluation Policy (Evaluation Office, November 2010)

⁶ GEF. (2011). GEF Minimum Fiduciary Standards: Separation of Implementation and Execution Functions in GEF Partner Agencies (GEF/C.41/06/Rev.01, 3 November 2011, prepared by the Trustee)

reasons for why certain results were achieved or not and to triangulate information for higher reliability of findings. The specific mixed methodological approach will be described in the inception report.

The evaluation team will develop interview guidelines. Field interviews can take place either in the form of focus-group discussions or one-to-one consultations.

The methodology will be based on the following:

1. A desk review of project documents, including, but not limited to:
 - (a) The original project document, monitoring reports (such as progress and financial reports to UNIDO and UNIDO-GEF annual Project Implementation Reports (PIRs)), mid-term review (MTR) report, output reports (case studies, action plans, sub-regional strategies, etc.), back-to-office mission report(s), end-of-contract report(s) and relevant correspondence.
 - (b) If applicable, notes from the meetings of committees involved in the project (e.g. approval and steering committees).
 - (c) Other project-related material produced by the project.
2. The evaluation team will use available models of (or reconstruct if necessary) theory of change for the different types of intervention (enabling, capacity, investment, demonstration). The validity of the theory of change will be examined through specific questions in interviews and possibly through a survey of stakeholders.
3. Counterfactual information: In those cases where baseline information for relevant indicators is not available, the evaluation team will aim at establishing a proxy-baseline through recall and secondary information.
4. Interviews with project management and technical support including staff and management at UNIDO HQ and in the field and – if necessary - staff associated with the project's financial administration and procurement.
5. Interviews with project partners and stakeholders, including, among others, government counterparts, GEF OFP, project stakeholders, and co-financing partners as shown in the corresponding sections of the project documents.
6. On-site observation of results achieved by demonstration projects, including interviews of actual and potential beneficiaries of improved technologies.
7. Interviews and telephone interviews with intended users for the project outputs and other stakeholders involved in the project. The evaluation team shall determine whether to seek additional information and opinions from representatives of any donor agency(ies) or other organizations.
8. Interviews with the relevant UNIDO Regional Office in China, to the extent that it was involved in the project, and members of the project management team and the various national and sub-regional authorities dealing with project activities as necessary. If deemed necessary, the evaluation team shall also gain broader perspectives from discussions with relevant GEF Secretariat staff.
9. Other interviews, surveys or document reviews as deemed necessary by the evaluation team and/or UNIDO, ODG/EVQ/IEV for triangulation purposes.
10. The inception report will provide details on the methodology used by the evaluation team and include an evaluation matrix.

IV. Evaluation team composition

The evaluation team will be composed of one international evaluation consultant acting as the team leader and one national consultant(s). The consultants will be contracted by UNIDO. The tasks of each team member are specified in the job descriptions annexed to these terms of reference.

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

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

The UNIDO project manager and the project teams in the participating countries will support the evaluation team. The UNIDO GEF Coordinator and the GEF OFP will be briefed on the evaluation and provide support to its conduct. GEF OFP will, where applicable and feasible, also be briefed and debriefed at the start and end of the evaluation mission.

V. Time schedule and deliverables

The evaluation is scheduled to take place from **15 March 2017 to 14 June 2017**. The evaluation mission is planned for **15 to 23 March 2017**. At the end of the field mission, there will be a presentation of the preliminary findings for all stakeholders involved in this project/programme in the participating country.

At the end of the evaluation field mission, a debriefing should also be conducted inviting local stakeholders (incl. government and parties involved in the evaluation). After the evaluation mission, the international evaluation consultant will come to UNIDO HQ for debriefing and presentation of the preliminary findings of the terminal evaluation.

The draft TE report will be submitted 4 to 6 weeks after the end of the mission. The draft TE report is to be shared with the UNIDO PM, ODG/EVQ/IEV, the UNIDO GEF Coordinator and the GEF OFP and other relevant stakeholders for receipt of comments. The ET is expected to revise the draft TE report based on the comments received, edit the language and form and submit the final version of the TE report in accordance with UNIDO ODG/EVQ/IEV standards.

VI. Project evaluation parameters

The evaluation team will assess the project performance guided by the parameters and evaluations questions provided in this section. In addition to the qualitative assessment based on the evidence gathered in the evaluation, the evaluation team will rate the project on the basis of the **rating criteria for the parameters described in the following sub-chapters, A to I.**

Ratings will be presented in the form of tables with each of the criteria / aspects rated separately and with **brief justifications for the rating** based on the findings and the main analyses (see Table 1 to Table 3) in **Error! Reference source not found.. Error! Reference source not found.** in **Error! Reference source not found.** presents the template for summarizing the overall ratings.

For GEF projects: As per the GEF's requirements, the evaluation report should also provide information on project identification, time frame, actual expenditures, and co-financing in the format in **Error! Reference source not found.**, which is modeled after the GEF's project identification form (PIF).

A. Project identification and design

Project identification assessment criteria derived from the logical framework approach (LFA) methodology, establishing the process and set up of steps and analyses required to design a project in a systematic and structured way, e.g. situation, stakeholder, problem and objective analyses.

The aspects to be addressed by the evaluation include inter alia the extent to which:

- a) The situation, problem, need / gap was clearly identified, analysed and documented (evidence, references). The project design was based on a needs assessment
- b) Stakeholder analysis was adequate (e.g. clear identification of end-users, beneficiaries, sponsors, partners, and clearly defined roles and responsibilities in the project(s)).
- c) The project took into account and reflects national and local priorities and strategies
- d) ISID-related issues and priorities were considered when designing the project
- e) Relevant country representatives (from government, industries, gender groups, custom officers and civil society - including the GEF OFP for GEF projects), were appropriately involved and participated in the identification of critical problem areas and the development of technical cooperation strategies.

Project design quality assessment criteria derive from the logical framework approach (LFA) methodology, leading to the establishment of LogFrame Matrix (LFM) and the main elements of the project, i.e. overall objective, outcomes, outputs, to defining their causal relationship, as well as indicators, their means of verification and the assumptions. The evaluation will examine the extent to which:

- f) The project's design were adequate to address the problems at hand;
- g) The project had a clear thematically focused development objective;
- h) The project outcome was clear, realistic, relevant, addressed the problem identified and provided a clear description of the benefit or improvement that will be achieved after project completion;
- i) Outputs were clear, realistic, adequately leading to the achievement of the outcome;
- j) The attainment of overall development objective, outcome and outputs can be determined by a set of SMART verifiable indicators;
- k) The results hierarchy in the LFM, from activities to outputs, outcome and overall objective, is logical and consistent.
- l) Verification and Assumptions were adequate, identifying important external factors and risks;
- m) All GEF-4 and GEF-5 projects have incorporated relevant environmental and social considerations into the project design / GEF-6 projects have followed the provisions specified in UNIDO/DGAI.23: UNIDO Environmental and Social Safeguards Policies and Procedures (ESSPP).

B. Implementation Performance

Implementation assessment criteria to be applied are shown below and correspond to DAC criteria, as well as to good programme/project management practices.

a) Relevance and ownership

The evaluation will examine the extent to which the project is relevant to the:

- i. National development and environmental priorities and strategies of the Government and the population, and regional and international agreements. See possible evaluation questions under "Country ownership/drivenness" below.
- ii. Target groups: relevance of the project's objectives, outcomes and outputs to the different target groups of the interventions (e.g. companies, civil society, beneficiaries of capacity building and training, etc.).
- iii. GEF's focal areas/operational programme strategies: In retrospect, were the project's outcomes consistent with the GEF focal area(s)/operational program strategies?

Ascertain the likely nature and significance of the contribution of the project outcomes to the wider portfolio of POPs.

- iv. Does the project remain relevant taking into account the changing environment?

b) Effectiveness

- i. Achievement of expected outcomes:
 - o What outputs and outcomes has the project achieved so far (both qualitative and quantitative results)?
 - o To what extent have the expected outcomes, outputs and long-term objectives been achieved or are likely to be achieved?
 - o Has the project generated any results that could lead to changes of the assisted institutions?
 - o Have there been any unplanned effects?
 - o Are the project outcomes commensurate with the original or modified project objectives?
 - o If the original or modified expected results were described as merely outputs/inputs, were there any real outcomes of the project and, if so, were these commensurate with realistic expectations from the project?
 - o If there was a need to reformulate the project design and the project results framework given changes in the country and operational context, were such modifications properly documented?
- ii. How do the stakeholders perceive the quality of outputs? Were the targeted beneficiary groups actually reached?
- iii. Longer-term impact: Identify actual and/or potential longer-term impacts or at least indicate the steps taken to assess these (see also below "monitoring of long term changes"). Wherever possible, evaluators should indicate how findings on impacts will be reported in future.
- iv. Catalytic or replication effects: Describe any catalytic or replication effects: the evaluation will describe any catalytic or replication effect both within and outside the project. If no effects are identified, the evaluation will describe the catalytic or replication actions that the project carried out. No ratings are requested for the project's catalytic role.

c) Efficiency

The extent to which:

- i. The project cost was effective? Was the project using the most cost-efficient options?
- ii. Has the project produced results (outputs and outcomes) within the expected time frame? Was project implementation delayed, and, if it was, did that affect cost effectiveness or results? Wherever possible, the evaluator should also compare the costs incurred and the time taken to achieve outcomes with that for similar projects. Are the project's activities in line with the schedule of activities as defined by the project team and annual work plans? Are the disbursements and project expenditures in line with budgets?
- iii. Have the inputs from the donor, UNIDO and Government/counterpart been provided as planned, and were they adequate to meet the requirements? Was the quality of UNIDO inputs and services as planned and timely?
- iv. Was there coordination with other UNIDO and other donors' projects, and did possible synergy effects happen?
- v. Were there delays in project implementation and if so, what were their causes?

d) Assessment of risks to sustainability of project outcomes

Sustainability is understood as the likelihood of continued benefits after the GEF project ends. Assessment of sustainability of outcomes will be given special attention but also technical, financial and organization sustainability will be reviewed. This assessment should explain how

the risks to project outcomes will affect continuation of benefits after the GEF project ends. It will include both exogenous and endogenous risks. The following four dimensions or aspects of risks to sustainability will be addressed:

- i. **Financial risks.** Are there any financial risks that may jeopardize sustainability of project outcomes? What is the likelihood of financial and economic resources not being available once GEF assistance ends? (Such resources can be from multiple sources, such as the public and private sectors or income-generating activities; these can also include trends that indicate the likelihood that, in future, there will be adequate financial resources for sustaining project outcomes.) Was the project successful in identifying and leveraging co-financing?
- ii. **Sociopolitical risks.** Are there any social or political risks that may jeopardize sustainability of project outcomes? What is the risk that the level of stakeholder ownership (including ownership by governments and other key stakeholders) will be insufficient to allow for the project outcomes/benefits to be sustained? Do the various key stakeholders see that it is in their interest that project benefits continue to flow? Is there sufficient public/stakeholder awareness in support of the project's long-term objectives?
- iii. **Institutional framework and governance risks.** Do the legal frameworks, policies, and governance structures and processes within which the project operates pose risks that may jeopardize sustainability of project benefits? Are requisite systems for accountability and transparency and required technical know-how in place?
- iv. **Environmental risks.** Are there any environmental risks that may jeopardize sustainability of project outcomes? Are there any environmental factors, positive or negative, that can influence the future flow of project benefits? Are there any project outputs or higher level results that are likely to have adverse environmental impacts, which, in turn, might affect sustainability of project benefits? The evaluation should assess whether certain activities will pose a threat to the sustainability of the project outcomes.

e) Assessment of monitoring and evaluation (M&E) systems

- i. **M&E design.** Did the project have an M&E plan to monitor results and track progress towards achieving project objectives? The evaluation will assess whether the project met the minimum requirements for the application of the Project M&E plan (see annex 3).
- ii. **M&E plan implementation.** The evaluation should verify that an M&E system was in place and facilitated timely tracking of progress toward project objectives by collecting information on chosen indicators continually throughout the project implementation period; annual project reports were complete and accurate, with well-justified ratings; the information provided by the M&E system was used during the project to improve performance and to adapt to changing needs; and the project had an M&E system in place with proper training for parties responsible for M&E activities to ensure that data will continue to be collected and used after project closure. Was monitoring and self-evaluation carried out effectively, based on indicators for outputs, outcomes and impacts? Are there any annual work plans? Was any steering or advisory mechanism put in place? Did reporting and performance reviews take place regularly?
- iii. **Budgeting and Funding for M&E activities.** In addition to incorporating information on funding for M&E while assessing M&E design, the evaluators will determine whether M&E was sufficiently budgeted for at the project planning stage and whether M&E was adequately funded and in a timely manner during implementation.

f) Monitoring of long-term changes

The M&E of long-term changes is often incorporated in GEF-supported projects as a separate component and may include determination of environmental baselines; specification of indicators; and provisioning of equipment and capacity building for data gathering, analysis, and use. This section of the evaluation report will describe project actions and

accomplishments towards establishing a long-term monitoring system. The evaluation will address the following questions:

- i. Did the project contribute to the establishment of a long-term monitoring system? If it did not, should the project have included such a component?
- ii. What were the accomplishments and shortcomings in establishment of this system?
- iii. Is the system sustainable — that is, is it embedded in a proper institutional structure and does it have financing? How likely is it that this system continues operating upon project completion?
- iv. Is the information generated by this system being used as originally intended?

g) Assessment of processes affecting achievement of project results

Among other factors, when relevant, the evaluation will consider a number of issues affecting project implementation and attainment of project results. The assessment of these issues can be integrated into the analyses of project design, relevance, effectiveness, efficiency, sustainability and management as the evaluators deem them appropriate (it is not necessary, however it is possible to have a separate chapter on these aspects in the evaluation report). The evaluation will consider, but need not be limited to, the following issues that may have affected project implementation and achievement of project results:

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

Specifically, the evaluation should also include a breakdown of final actual project costs by activities compared to budget (variances), financial management (including disbursement issues), and co-financing.

- v. **UNIDO's supervision and backstopping.** Did UNIDO staff identify problems in a timely fashion and accurately estimate their seriousness? Did UNIDO staff provide quality support and advice to the project, approve modifications in time, and restructure the project when needed? Did UNIDO provide the right staffing levels, continuity, skill mix, and frequency of field visits for the project?
- vi. **Co-financing and project outcomes and sustainability.** Did the project manage to mobilize the co-financing amount expected at the time of CEO Endorsement? If there was a difference in the level of expected co-financing and the co-financing actually mobilized, what were the reasons for the variance? Did the extent of materialization of co-financing affect project outcomes and/or sustainability, and, if so, in what ways and through what causal linkages?
- vii. **Delays and project outcomes and sustainability.** If there were delays in project implementation and completion, what were the reasons? Did the delays affect project outcomes and/or sustainability, and, if so, in what ways and through what causal linkages?
- viii. **Implementation and execution approach.** Is the implementation and execution approach chosen different from other implementation approaches applied by UNIDO and other agencies? Does the approach comply with the principles of the Paris Declaration? Is the implementation and execution approach in line with the GEF Minimum Fiduciary Standards: Separation of Implementation and Execution Functions in GEF Partner Agencies (GEF/C.41/06/Rev.01) and the relevant UNIDO regulations (DGAI.20 and Procurement Manual)? Does the approach promote local ownership and capacity building? Does the approach involve significant risks? In cases where Execution was done by third parties, i.e. Executing Partners, based on a contractual arrangement with UNIDO was this done in accordance with the contractual arrangement concluded with UNIDO in an effective and efficient manner?
- ix. **Environmental and Social Safeguards.** If a GEF-5 project, has the project incorporated relevant environmental and social risk considerations into the project design? What impact did these risks have on the achievement of project results?

h) Project coordination and management

The extent to which:

- i. The national management and overall coordination mechanisms have been efficient and effective? Did each partner have assigned roles and responsibilities from the beginning? Did each partner fulfil its role and responsibilities (e.g. providing strategic support, monitoring and reviewing performance, allocating funds, providing technical support, following up agreed/corrective actions)?
- ii. The UNIDO HQ-based management, coordination, monitoring, quality control and technical inputs have been efficient, timely and effective (e.g. problems identified timely and accurately; quality support provided timely and effectively; right staffing levels, continuity, skill mix and frequency of field visits)?

i) Assessment of gender mainstreaming

Gender mainstreaming assessment criteria are provided in the table below. Guidance on integrating gender is included in Annex 4.

The evaluation will consider, but need not be limited to, the following issues that may have affected gender mainstreaming in the project:

- Did the project/programme design adequately consider the gender dimensions in its interventions? If so, how (at the level of project outcome, output or activity)?

- Was a gender analysis included in a baseline study or needs assessment (if any)?
- How gender-balanced was the composition of the project management team, the Steering Committee, experts and consultants and the beneficiaries?
- Have women and men benefited equally from the project's interventions? Do the results affect women and men differently? If so, why and how? How are the results likely to affect gender relations (e.g., division of labour, decision-making authority)?
- Are women/gender-focused groups, associations or gender units in partner organizations consulted/included in the project?
- To what extent were socioeconomic benefits delivered by the project at the national and local levels, including consideration of gender dimensions?

VII. Deliverables and Reporting

Inception report

These terms of reference (TOR) provide some information on the evaluation methodology, but this should not be regarded as exhaustive. After reviewing the project documentation and initial interviews with the project manager, the evaluation team will prepare a short inception report that will operationalize the TOR relating to the evaluation questions and provide information on what type of and how the evidence will be collected (methodology). It will be discussed with and approved by the responsible in the UNIDO Independent Evaluation Division.

The inception report will focus on the following elements: preliminary project theory model(s); elaboration of evaluation methodology including quantitative and qualitative approaches through an evaluation framework ("evaluation matrix"); division of work between the international evaluation consultants; mission plan, including places to be visited, people to be interviewed and possible surveys to be conducted and a debriefing and reporting timetable⁷.

Evaluation report format and review procedures

The draft report will be delivered to UNIDO Independent Evaluation Division (the suggested report outline is in annex 1) and circulated to UNIDO staff, the GEF OFP, and national stakeholders associated with the project for factual validation and comments. Any comments or responses, or feedback on any errors of fact to the draft report provided by the stakeholders will be sent to UNIDO ODG/EVQ/IEV for collation and onward transmission to the project evaluation team who will be advised of any necessary revisions. On the basis of this feedback, and taking into consideration the comments received, the evaluation team will prepare the final version of the terminal evaluation report.

The evaluation team will present its preliminary findings to the national stakeholders at the end of the field visit and take into account their feed-back in preparing the evaluation report. A presentation of preliminary findings will take place at UNIDO HQ after the field mission.

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

⁷ The evaluator will be provided with a Guide on how to prepare an evaluation inception report prepared by the UNIDO Independent Evaluation Division.

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

Evaluation work plan and deliverables

The "Evaluation Work Plan" includes the following main products/deliverables:

INCEPTION PHASE:

1. Desk review, briefing by project manager and development of methodology: Following the receipt of all relevant documents, and consultation with the Project Manager about the documentation, including reaching an agreement on the methodology, the desk review could be completed.
2. Inception report: At the time of departure to the field mission, all the received material has been reviewed and consolidated into the Inception report.

FIELD MISSION:

3. Field mission: The principal responsibility for managing this evaluation lies with UNIDO. It will be responsible for liaising with the project team to set up the stakeholder interviews, arrange the field missions, coordinate with the Government. At the end of the field mission, there will be a presentation of preliminary findings to the key stakeholders in the country where the project was implemented.
4. Preliminary findings from the field mission: Following the field mission, the main findings, conclusions and recommendations would be prepared and presented in the field and at UNIDO Headquarters.

REPORTING:

5. Data analysis/collation of the data/information collected
6. A draft terminal evaluation report will be forwarded electronically to the UNIDO Independent Evaluation Division and circulated to main stakeholders.
7. Final terminal evaluation report will incorporate comments received.

VIII. Quality assurance

All UNIDO terminal evaluations are subject to quality assessments by the UNIDO Independent Evaluation Division. Quality assurance and control is exercised in different ways throughout the evaluation process (briefing of consultants on methodology and process by the UNIDO, ODG/EVQ/IEV, providing inputs regarding findings, lessons learned and recommendations from other UNIDO evaluations, review of inception report and evaluation report by UNIDO, ODG/EVQ/IEV). The quality of the evaluation report will be assessed and rated against the criteria set forth in the Checklist on evaluation report quality, attached as Annex 4. The applied evaluation quality assessment criteria are used as a tool to provide structured feedback. UNIDO, ODG/EVQ/IEV should ensure that the evaluation report is useful for UNIDO in terms of organizational learning (recommendations and lessons learned) and is compliant with UNIDO's evaluation policy and these terms of reference. The draft and final terminal evaluation report are reviewed by the UNIDO Independent Evaluation Division, which will submit the final report to the GEF Evaluation Office and circulate it within UNIDO together with a management response sheet.

Annex 1 - Outline of an in-depth project evaluation report

Executive summary

- Must provide a synopsis of the storyline which includes the main evaluation findings and recommendations
- Must present strengths and weaknesses of the project
- Must be self-explanatory and should be maximum 3-4 pages in length

I. Evaluation objectives, methodology and process

- Information on the evaluation: why, when, by whom, etc.
- Scope and objectives of the evaluation, main questions to be addressed
- Information sources and availability of information
- Methodological remarks, limitations encountered and validity of the findings

II. Country and project background

- Brief country context: an overview of the economy, the environment, institutional development, demographic and other data of relevance to the project
- Sector-specific issues of concern to the project⁸ and important developments during the project implementation period
- Project summary:
 - Fact sheet of the project: including project objectives and structure, donors and counterparts, project timing and duration, project costs and co-financing
 - Brief description including history and previous cooperation
 - Project implementation arrangements and implementation modalities, institutions involved, major changes to project implementation
 - Positioning of the UNIDO project (other initiatives of Government, other donors, private sector, etc.)
 - Counterpart organization(s)

III. Project assessment

This is the key chapter of the report and should address all evaluation criteria and questions outlined in the TOR (see section VI - Project evaluation parameters). Assessment must be based on factual evidence collected and analyzed from different sources. The evaluators' assessment can be broken into the following sections:

- A. Project identification and formulation
- B. Project design
- C. Implementation performance
 - a) Relevance and ownership (report on the relevance of project towards countries and beneficiaries, country ownership, stakeholder involvement)
 - b) Effectiveness (the extent to which the development intervention's objectives and deliverables were achieved, or are expected to be achieved, taking into account their relative importance)
 - c) Efficiency (report on the overall cost-benefit of the project and partner countries' contribution to the achievement of project objectives)
 - d) Likelihood of sustainability of project outcomes (report on the risks and vulnerability of the project, considering the likely effects of sociopolitical and institutional changes in partner countries, and its impact on continuation of benefits after the GEF project ends, specifically the financial, sociopolitical, institutional framework and governance, and environmental risks)
 - e) Project coordination and management (Report on the project management conditions and achievements, and partner countries' commitment)
 - f) Assessment of monitoring and evaluation systems (report on M&E design, M&E plan implementation, and budgeting and funding for M&E activities)
 - g) Monitoring of long-term changes

⁸ Explicit and implicit assumptions in the logical framework of the project can provide insights into key-issues of concern (e.g., relevant legislation, enforcement capacities, government initiatives)

- h) Assessment of processes affecting achievement of project results (report on preparation and readiness / quality at entry, country ownership, stakeholder involvement, financial planning, UNIDO support, co-financing and project outcomes and sustainability, delays of project outcomes and sustainability, and implementation approach)
- D. Gender mainstreaming

At the end of this chapter, an overall project achievement rating should be developed as required in annex 2. The overall rating table required by the GEF should be presented here.

IV. Conclusions, recommendations and lessons learned

This chapter can be divided into three sections:

A. Conclusions

This section should include a storyline of the main evaluation conclusions related to the project's achievements and shortfalls. It is important to avoid providing a summary based on each and every evaluation criterion. The main conclusions should be cross-referenced to relevant sections of the evaluation report.

B. Recommendations

This section should be succinct and contain few key recommendations. They should be:

- Based on evaluation findings
- Realistic and feasible within a project context
- Indicating institution(s) responsible for implementation (addressed to a specific officer, group or entity who can act on it) and have a proposed timeline for implementation if possible
- Commensurate with the available capacities of project team and partners
- Taking resource requirements into account.

Recommendations should be structured by addressees:

- UNIDO
- Government and/or counterpart organizations
- Donor

C. Lessons learned

- Lessons learned must be of wider applicability beyond the evaluated project but must be based on findings and conclusions of the evaluation
- For each lesson, the context from which they are derived should be briefly stated

Annexes should include the evaluation TOR, list of interviewees, documents reviewed, a summary of project identification and financial data, including an updated table of expenditures to date, and other detailed quantitative information. Dissident views or management responses to the evaluation findings may later be appended in an annex.

Annex 2 - Rating tables

Ratings will be presented in the form of tables with each of the criteria / aspects rated separately and with **brief justifications for the rating** based on the findings and the main analyses (see Table 1 to Table 3) below. **Error! Reference source not found.** presents the template for summarizing the overall ratings.

Table 1. Rating criteria for Quality of project identification and formulation process (LFA Process)

Evaluation issue	Evaluator's comments	Ratings
1. Extent to which the situation, problem, need / gap is clearly identified, analysed and documented (evidence, references).		
2. Adequacy and clarity of the stakeholder analysis (clear identification of end-users, beneficiaries, sponsors, partners, and clearly defined roles and responsibilities in the project(s)).		
3. Adequacy of project monitoring and evaluation (M&E) design.		
4. Overall LFA design process.		

Table 2. Quality of project design (LFM)

Evaluation issue	Evaluator's comments	Rating
1. Clarity and adequacy of outcome (clear, realistic, relevant, addressing the problem identified). Does it provide a clear description of the benefit or improvement that will be achieved after project completion?		
2. Clarity and adequacy of outputs (realistic, measurable, adequate for leading to the achievement of the outcome).		
3. Clarity, consistency and logic of the objective tree , and its reflexion in the LFM results hierarchy from activities to outputs, to outcome and to overall objective .		
4. Indicators are SMART for Outcome and Output levels.		
5. Adequacy of Means of Verification and Assumptions (including important external factors and risks).		
6. Overall LFM design quality.		

Table 3. Quality of project implementation performance

Evaluation criteria	Rating	
7. Ownership and relevance		
8. Effectiveness		
9. Efficiency		
10. Impact		
11. Likelihood of/ risks to sustainability		
12. Project management		
13. M&E		

Criterion	Evaluator's summary comments	Evaluator's rating
Attainment of project objectives and results (overall rating), sub criteria (below)		
Project implementation		
Effectiveness		
Relevance		
Efficiency		
Sustainability of project outcomes (overall rating), sub criteria (below)		
Financial risks		
Sociopolitical risks		
Institutional framework and governance risks		
Environmental risks		
Monitoring and evaluation (overall rating), sub criteria (below)		
M&E Design		
M&E Plan implementation (use for adaptive management)		
Budgeting and Funding for M&E activities		
Project management - UNIDO specific ratings		
Quality at entry / Preparation and readiness		
Implementation approach		
UNIDO Supervision and backstopping		
Gender Mainstreaming		
Overall rating		

RATING OF PROJECT OBJECTIVES AND RESULTS

- Highly satisfactory (HS): The project had no shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Satisfactory (S): The project had minor shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Moderately satisfactory (MS): The project had moderate shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Moderately unsatisfactory (MU): The project had significant shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Unsatisfactory (U) The project had major shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Highly unsatisfactory (HU): The project had severe shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.

Please note: Relevance and effectiveness will be considered as critical criteria. The overall rating of the project for achievement of objectives and results **may not be higher** than the lowest rating on either of these two criteria. Thus, to have an overall satisfactory rating for outcomes a project must have at least satisfactory ratings on both relevance and effectiveness.

RATINGS ON SUSTAINABILITY

Sustainability will be understood as the probability of continued long-term outcomes and impacts after the GEF project funding ends. The evaluation will identify and assess the key conditions or factors that are likely to contribute or undermine the persistence of benefits beyond project completion. Some of these factors might be outcomes of the project, i.e. stronger institutional capacities, legal frameworks, socio-economic incentives /or public awareness. Other factors will include contextual circumstances or developments that are not outcomes of the project but that are relevant to the sustainability of outcomes.

Rating system for sustainability sub-criteria

On each of the dimensions of sustainability of the project outcomes will be rated as follows.

- Likely (L): There are no risks affecting this dimension of sustainability.
- Moderately likely (ML). There are moderate risks that affect this dimension of sustainability.
- Moderately unlikely (MU): There are significant risks that affect this dimension of sustainability.
- Unlikely (U): There are severe risks that affect this dimension of sustainability.

All the risk dimensions of sustainability are critical. Therefore, overall rating for sustainability will not be higher than the rating of the dimension with lowest ratings. For example, if a project has an Unlikely rating in either of the dimensions then its overall rating cannot be higher than Unlikely, regardless of whether higher ratings in other dimensions of sustainability produce a higher average.

RATINGS OF PROJECT M&E

Monitoring is a continuing function that uses systematic collection of data on specified indicators to provide management and the main stakeholders of an ongoing project with indications of the extent of progress and achievement of objectives and progress in the use of allocated funds. Evaluation is the systematic and objective assessment of an on-going or completed project, its design, implementation and results. Project evaluation may involve the definition of appropriate standards, the examination of performance against those standards, and an assessment of actual and expected results.

The Project M&E system will be rated on M&E design, M&E plan implementation and budgeting and funding for M&E activities as follows:

- Highly satisfactory (HS): There were no shortcomings in the project M&E system.
- Satisfactory (S): There were minor shortcomings in the project M&E system.
- Moderately satisfactory (MS): There were moderate shortcomings in the project M&E system.
- Moderately unsatisfactory (MU): There were significant shortcomings in the project M&E system.
- Unsatisfactory (U): There were major shortcomings in the project M&E system.
- Highly unsatisfactory (HU): The Project had no M&E system.

M&E plan implementation will be considered a critical parameter for the overall assessment of the M&E system. The overall rating for the M&E systems will not be higher than the rating on M&E plan implementation.

All other ratings will be on the GEF six-point scale:

HS	= Highly satisfactory	Excellent
S	= Satisfactory	Well above average
MS	= Moderately satisfactory	Average
MU	= Moderately unsatisfactory	Below average
U	= Unsatisfactory	Poor
HU	= Highly unsatisfactory	Very poor (appalling)

Annex 3 - GEF Minimum requirements for M&E⁹

Minimum requirement 1: Project design of M&E

All projects will include a concrete and fully budgeted M&E plan by the time of work program entry for full-sized projects (FSP) and CEO approval for medium-sized projects (MSP). This M&E plan will contain as a minimum:

- SMART indicators for project implementation, or, if no indicators are identified, an alternative plan for monitoring that will deliver reliable and valid information to management;
- SMART indicators for results (outcomes and, if applicable, impacts), and, where appropriate, indicators identified at the corporate level;
- Baseline for the project, with a description of the problem to be addressed, with indicator data, or, if major baseline indicators are not identified, an alternative plan for addressing this within one year of implementation;
- Identification of reviews and evaluations that will be undertaken, such as mid-term reviews or evaluations of activities; and
- Organizational set-up and budgets for monitoring and evaluation.

Minimum requirement 2: Application of project M&E

Project monitoring and supervision will include implementation of the M&E plan, comprising:

- SMART indicators for implementation are actively used, or if not, a reasonable explanation is provided;
- SMART indicators for results are actively used, or if not, a reasonable explanation is provided;
- The baseline for the project is fully established and data compiled to review progress reviews, and evaluations are undertaken as planned; and
- The organizational set-up for M&E is operational and budgets are spent as planned.

⁹ http://www.thegef.org/gef/sites/thegef.org/files/documents/ME_Policy_2010.pdf

Annex 4 - Guidance on integrating gender in evaluations of UNIDO projects and programmes

A. Introduction

Gender equality is internationally recognized as a goal of development and is fundamental to sustainable growth and poverty reduction. The UNIDO Policy on gender equality and the empowerment of women and its addendum, issued respectively in April 2009 and May 2010 (UNIDO/DGB(M).110 and UNIDO/DGB(M).110/Add.1), provides the overall guidelines for establishing a gender mainstreaming strategy and action plans to guide the process of addressing gender issues in the Organization's industrial development interventions.

According to the UNIDO Policy on gender equality and the empowerment of women:

Gender equality refers to the equal rights, responsibilities and opportunities of women and men and girls and boys. Equality does not suggest that women and men become 'the same' but that women's and men's rights, responsibilities and opportunities do not depend on whether they are born male or female. Gender equality implies that the interests, needs and priorities of both women and men are taken into consideration, recognizing the diversity of different groups of women and men. It is therefore not a 'women's issues'. On the contrary, it concerns and should fully engage both men and women and is a precondition for, and an indicator of sustainable people-centered development.

Empowerment of women signifies women gaining power and control over their own lives. It involves awareness-raising, building of self-confidence, expansion of choices, increased access to and control over resources and actions to transform the structures and institutions which reinforce and perpetuate gender discriminations and inequality.

Gender parity signifies equal numbers of men and women at all levels of an institution or organization, particularly at senior and decision-making levels.

The UNIDO projects/programmes can be divided into two categories: 1) those where promotion of gender equality is one of the key aspects of the project/programme; and 2) those where there is limited or no attempted integration of gender. Evaluation managers/evaluators should select relevant questions depending on the type of interventions.

B. Gender responsive evaluation questions

The questions below will help evaluation managers/evaluators to mainstream gender issues in their evaluations.

B.1 Design

- Is the project/programme in line with the UNIDO and national policies on gender equality and the empowerment of women?
- Were gender issues identified at the design stage?
- Did the project/programme design adequately consider the gender dimensions in its interventions? If so, how?
- Were adequate resources (e.g., funds, staff time, methodology, experts) allocated to address gender concerns?
- To what extent were the needs and priorities of women, girls, boys and men reflected in the design?
- Was a gender analysis included in a baseline study or needs assessment (if any)?
- If the project/programme is people-centered, were target beneficiaries clearly identified and disaggregated by sex, age, race, ethnicity and socio-economic group?

- If the project/programme promotes gender equality and/or women's empowerment, was gender equality reflected in its objective/s? To what extent are output/outcome indicators gender disaggregated?

B.2 Implementation management

- Did project monitoring and self-evaluation collect and analyse gender disaggregated data?
- Were decisions and recommendations based on the analyses? If so, how?
- Were gender concerns reflected in the criteria to select beneficiaries? If so, how?
- How gender-balanced was the composition of the project management team, the Steering Committee, experts and consultants and the beneficiaries?
- If the project/programme promotes gender equality and/or women's empowerment, did the project/programme monitor, assess and report on its gender related objective/s?

B.3 Results

- Have women and men benefited equally from the project's interventions? Do the results affect women and men differently? If so, why and how? How are the results likely to affect gender relations (e.g., division of labour, decision making authority)?
- In the case of a project/programme with gender related objective/s, to what extent has the project/programme achieved the objective/s? To what extent has the project/programme reduced gender disparities and enhanced women's empowerment?

Annex 5. Checklist on terminal evaluation report quality

Independent terminal evaluation of UNIDO-GEF project:

Project Title:

UNIDO Project NO:

UNIDO SAP ID:

GEF ID:

Evaluation team leader:

Quality review done by:

Date:

CHECKLIST ON EVALUATION REPORT QUALITY

Report quality criteria	UNIDO ODG/EVQ/IEV assessment notes	Rating
A. Was the report well-structured and properly written? (Clear language, correct grammar, clear and logical structure)		
B. Was the evaluation objective clearly stated and the methodology appropriately defined?		
C. Did the report present an assessment of relevant outcomes and achievement of project objectives?		
D. Was the report consistent with the ToR and was the evidence complete and convincing?		
E. Did the report present a sound assessment of sustainability of outcomes or did it explain why this is not (yet) possible? (Including assessment of assumptions, risks and impact drivers)		
F. Did the evidence presented support the lessons and recommendations? Are these directly based on findings?		
G. Did the report include the actual project costs (total, per activity, per source)?		
H. Did the report include an assessment of the quality of both the M&E plan at entry and the system used during the implementation? Was the M&E sufficiently budgeted for during preparation and properly funded during implementation?		
I. Quality of the lessons: were lessons readily applicable in other contexts? Did they suggest prescriptive action?		
J. Quality of the recommendations: did recommendations specify the actions necessary to correct existing conditions or improve operations ('who?' 'what?' 'where?' 'when?'). Can these be immediately implemented with current resources?		
K. Are the main cross-cutting issues, such as gender, human rights and environment, appropriately		

Report quality criteria	UNIDO ODG/EVQ/IEV assessment notes	Rating
covered?		
L. Was the report delivered in a timely manner? (Observance of deadlines)		

Rating system for quality of evaluation reports

A number rating 1-6 is used for each criterion: Highly satisfactory = 6, Satisfactory = 5, Moderately satisfactory = 4, Moderately unsatisfactory = 3, Unsatisfactory = 2, Highly unsatisfactory = 1, and unable to assess = 0.

Annex 6 – Required project identification and financial data

The evaluation report should provide information on project identification, time frame, actual expenditures, and co-financing in the following format, which is modeled after the project identification form (PIF).

I. Dates

Milestone	Expected date	Actual date
Project CEO endorsement/approval date		
Project implementation start date (PAD issuance date)		
Original expected implementation end date (indicated in CEO endorsement/approval document)		
Revised expected implementation end date (if any)		
Terminal evaluation completion		
Planned tracking tool date		

II. Project framework

Project component	Activity type	GEF financing (in USD)		Co-financing (in USD)	
		Approved	Actual	Promised	Actual
1.					
2.					
3.					
4.					
5.					
6. Project management					
Total (in USD)					

Activity types are:

- i) Experts, researches hired
- j) technical assistance, Workshop, Meetings or experts consultation scientific and technical analysis, experts researches hired
- k) Promised co-financing refers to the amount indicated on endorsement/approval.

III. Co-financing

Source of co-financing (name of specific co-financiers)	Type of co-financier (e.g. government, GEF agency(ies), Bilateral and aid agency (ies), multilateral agency(ies), private sector, NGO/CSOs, other)	Type of co-financing	Project preparation – CEO endorsement/ approval stage (in USD)		Project implementation stage (in USD)		Total (in USD)	
			Expected	Actual	Expected	Actual	Expected	Actual
	...							
Total co-financing (in USD)								

Expected amounts are those submitted by the GEF agencies in the original project appraisal document. Co-financing types are grant, soft loan, hard loan, guarantee, in kind, or cash.

Annex 7 – Job descriptions



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

TERMS OF REFERENCE FOR PERSONNEL UNDER INDIVIDUAL SERVICE AGREEMENT (ISA)

Title:	International evaluation consultant, team leader
Main Duty Station and Location:	Home-based
Missions:	Missions to Vienna, Austria and China
Start of Contract (EOD):	March, 2017
End of Contract (COB):	May, 2017
Number of Working Days:	40 working days spread over 2 months

1. ORGANIZATIONAL CONTEXT

The UNIDO Independent Evaluation Division (ODG/EVQ/IEV) is responsible for the independent evaluation function of UNIDO. It supports learning, continuous improvement and accountability, and provides factual information about result and practices that feed into the programmatic and strategic decision-making processes. Evaluation is an assessment, as systematic and impartial as possible, of a programme, a project or a theme. Independent evaluations provide evidence-based information that is credible, reliable and useful, enabling the timely incorporation of findings, recommendations and lessons learned into the decision-making processes at organization-wide, programme and project level. ODG/EVQ/IEV is guided by the UNIDO Evaluation Policy, which is aligned to the norms and standards for evaluation in the UN system.

2. PROJECT CONTEXT

The People's Republic of China ratified the Stockholm Convention on POPs on 13th August 2004. Article 5 of the SC requires the Parties to take measures to reduce or, where feasible, eliminate releases of PCDD/PCDF and other unintentionally produced POPs (UPOPs) in Part I from sources listed in Parts II and III of Annex C of the Convention. In the National Implementation Plan (NIP) of China for the implementation of the SC on POPs, MW incineration is listed as a key PCDD/PCDF release source and, pursuant to the "Action Plan for Reduction and Elimination of PCDD/PCDF Releases"; priority should be given to the application of best available techniques and best environmental practices (BAT/BEP).

Medical waste (MW) is generated by medical institutions and research facilities in the delivery of healthcare that includes diagnosis, treatment and research. Medical waste is bio-hazardous with a potential to spread infection and has much higher potential than common municipal wastes to cause pollution during disposal because of its characterization. Medical waste therefore requires safe management throughout the complete life cycle in order to safeguard public health and protect the environment. The overall objective of the project is to reduce and ultimately eliminate the releases of unintentionally produced POPs and other globally harmful pollutants into the environment, and assist China in implementing its relevant obligations under the Stockholm Convention.

Detailed background information of the project can be found the Terms of Reference (TORs) for the terminal evaluation.

3. DUTIES AND RESPONSIBILITIES

MAIN DUTIES	Concrete/ Measurable Outputs to be achieved	Working Days	Location
<p>1. Review project documentation and relevant country background information (national policies and strategies, UN strategies and general economic data); determine key data to collect in the field and adjust the key data collection instrument of 3A accordingly (if needed);</p> <p>Assess the adequacy of legislative and regulatory framework relevant to the project's activities and analyze other background info.</p>	<ul style="list-style-type: none"> • Adjust table of evaluation questions, depending on country specific context; • Draft list of stakeholders to interview during the field missions; • Brief assessment of the adequacy of the country's legislative and regulatory framework. 	8 days	Home-based
<p>2. Briefing with the UNIDO Independent Evaluation Division, project managers and other key stakeholders at UNIDO HQ.</p> <p>Preparation of the Inception Report</p>	<ul style="list-style-type: none"> • Detailed evaluation schedule with tentative mission agenda (incl. list of stakeholders to interview and site visits); mission planning; • Division of evaluation tasks with the National Consultant. • Inception Report 	2 days	Vienna, Austria
<p>3. Conduct field mission to China in March-April 2017¹⁰.</p>	<ul style="list-style-type: none"> • Conduct meetings with relevant project stakeholders, beneficiaries, the GEF Operational Focal Point (OFP), etc. for the collection of data and clarifications; • Agreement with the National Consultant on the structure and content of the evaluation report and the distribution of writing tasks; • Evaluation presentation of the evaluation's initial findings prepared, draft conclusions and recommendations to stakeholders in the country, including the GEF OFP, at the end of the mission. 	16 days	China
<p>4. Present overall findings and recommendations to the stakeholders at UNIDO HQ</p>	<ul style="list-style-type: none"> • After field mission(s): Presentation slides, feedback from stakeholders obtained and discussed 	2 days	Vienna, Austria
<p>5. Prepare the evaluation report, with inputs from the National Consultant, according to the TOR;</p> <p>Coordinate the inputs from the National</p>	<ul style="list-style-type: none"> • Draft evaluation report. 	8 days	Home-based

¹⁰ The exact mission dates will be decided in agreement with the Consultant, UNIDO HQ, and the country counterparts.

MAIN DUTIES	Concrete/ Measurable Outputs to be achieved	Working Days	Location
Consultant and combine with her/his own inputs into the draft evaluation report. Share the evaluation report with UNIDO HQ and national stakeholders for feedback and comments.			
6. Revise the draft project evaluation report based on comments from UNIDO Independent Evaluation Division and stakeholders and edit the language and form of the final version according to UNIDO standards.	<ul style="list-style-type: none"> Final evaluation report. 	4 days	Home-based
	TOTAL	40 days	

MINIMUM ORGANIZATIONAL REQUIREMENTS

Education:

Advanced degree in environment, energy, engineering, development studies or related areas

Technical and functional experience:

- Minimum of 10 years' experience in environmental/energy project management and/or evaluation (of development projects)
- Strong experience on environmental/energy and knowledge about GEF operational programs and strategies and about relevant GEF policies such as those on project life cycle, M&E, incremental costs, and fiduciary standards
- Experience in the evaluation of GEF projects and knowledge of UNIDO activities an asset
- Knowledge about multilateral technical cooperation and the UN, international development priorities and frameworks
- Working experience in developing countries

Languages:

Fluency in written and spoken English is required.

Reporting and deliverables

- 1) At the beginning of the assignment the Consultant will submit a concise Inception Report that will outline the general methodology and presents a concept Table of Contents;
- 2) The country assignment will have the following deliverables:
 - Presentation of initial findings of the mission to key national stakeholders;
 - Draft report;
 - Final report, comprising of executive summary, findings regarding design, implementation and results, conclusions and recommendations.
- 3) Debriefing at UNIDO HQ:
 - Presentation and discussion of findings;
 - Concise summary and comparative analysis of the main results of the evaluation report.

All reports and related documents must be in English and presented in electronic format.

Absence of conflict of interest:

According to UNIDO rules, the consultant must not have been involved in the design and/or implementation, supervision and coordination of and/or have benefited from the programme/project (or theme) under evaluation. The consultant will be requested to sign a declaration that none of the above situations exists and that the consultants will not seek assignments with the manager/s in charge of the project before the completion of her/his contract with the UNIDO Independent Evaluation Division.



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

TERMS OF REFERENCE FOR PERSONNEL UNDER INDIVIDUAL SERVICE AGREEMENT (ISA)

Title:	National evaluation consultant
Main Duty Station and Location:	Home-based
Mission/s to:	Travel to potential sites within China
Start of Contract:	March 2016
End of Contract:	May 2016
Number of Working Days:	35 days over 2 months

ORGANIZATIONAL CONTEXT

The UNIDO Independent Evaluation Division is responsible for the independent evaluation function of UNIDO. It supports learning, continuous improvement and accountability, and provides factual information about result and practices that feed into the programmatic and strategic decision-making processes. Evaluation is an assessment, as systematic and impartial as possible, of a programme, a project or a theme. Independent evaluations provide evidence-based information that is credible, reliable and useful, enabling the timely incorporation of findings, recommendations and lessons learned into the decision-making processes at organization-wide, programme and project level. The UNIDO Independent Evaluation Division is guided by the UNIDO Evaluation Policy, which is aligned to the norms and standards for evaluation in the UN system.

PROJECT CONTEXT

The national evaluation consultant will evaluate the projects according to the terms of reference (TOR) under the leadership of the team leader (international evaluation consultant). S/he will perform the following tasks:

<u>MAIN DUTIES</u>	Concrete/measurable outputs to be achieved	Expected duration	Location
Review and analyze project documentation and relevant country background information (national policies and strategies, UN strategies and general economic data); in cooperation with the Team Leader: determine key data to collect in the field and prepare key instruments in both English and local language (questionnaires, logic models) to collect these data through interviews and/or surveys during and prior to the field missions; Coordinate and lead interviews/ surveys in local language and assist the team leader with translation	<ul style="list-style-type: none"> List of detailed evaluation questions to be clarified; questionnaires/interview guide; logic models; list of key data to collect, draft list of stakeholders to interview during the field missions Drafting and presentation of brief assessment of the adequacy of the country's legislative and regulatory framework in the context of the project. 	7 days	Home-based

<u>MAIN DUTIES</u>	Concrete/measurable outputs to be achieved	Expected duration	Location
<p>where necessary;</p> <p>Analyze and assess the adequacy of legislative and regulatory framework, specifically in the context of the project's objectives and targets; provide analysis and advice to the team leader on existing and appropriate policies for input to the team leader.</p>			
<p>Review all project outputs/publications/feedback;</p> <p>Briefing with the evaluation team leader, UNIDO project managers and other key stakeholders.</p> <p>Coordinate the evaluation mission agenda, ensuring and setting up the required meetings with project partners and government counterparts, and organize and lead site visits, in close cooperation with the Project Management Unit.</p> <p>Assist and provide detailed analysis and inputs to the team leader in the preparation of the inception report.</p>	<ul style="list-style-type: none"> • Interview notes, detailed evaluation schedule and list of stakeholders to interview during the field missions. • Division of evaluation tasks with the Team Leader. • Inception Report. 	6 days	Home-based (telephone interviews)
<p>Coordinate and conduct the field mission with the team leader in cooperation with the Project Management Unit, where required;</p> <p>Consult with the team leader on the structure and content of the evaluation report and the distribution of writing tasks.</p>	<ul style="list-style-type: none"> • Presentations of the evaluation's initial findings, draft conclusions and recommendations to stakeholders in the country at the end of the mission. • Agreement with the Team Leader on the structure and content of the evaluation report and the distribution of writing tasks. 	16 days (including travel days)	China
<p>Prepare inputs and analysis to the evaluation report according to TOR and as agreed with the Team Leader.</p>	<p>Draft evaluation report prepared.</p>	4 days	Home-based
<p>Revise the draft project evaluation report based on comments from UNIDO Independent Evaluation Division and stakeholders and edit the language and form of the final version according to UNIDO standards.</p>	<p>Final evaluation report prepared.</p>	2 days	Home-based
TOTAL		35 days	

REQUIRED COMPETENCIES

Core values:

1. Integrity
2. Professionalism
3. Respect for diversity

Core competencies:

1. Results orientation and accountability
2. Planning and organizing
3. Communication and trust
4. Team orientation
5. Client orientation
6. Organizational development and innovation

Managerial competencies (as applicable):

1. Strategy and direction
2. Managing people and performance
3. Judgement and decision making
4. Conflict resolution

MINIMUM ORGANIZATIONAL REQUIREMENTS

Education: Advanced university degree in environmental science, engineering or other relevant discipline like developmental studies with a specialization in industrial energy efficiency and/or climate change.

Technical and functional experience:

- Exposure to the needs, conditions and problems in developing countries.
- Familiarity with the institutional context of the project is desirable.
- Experience in the field of environment and energy, including evaluation of development cooperation in developing countries is an asset

Languages: Fluency in written and spoken English and Chinese is required.

Absence of conflict of interest:

According to UNIDO rules, the consultant must not have been involved in the design and/or implementation, supervision and coordination of and/or have benefited from the programme/project (or theme) under evaluation. The consultant will be requested to sign a declaration that none of the above situations exists and that the consultants will not seek assignments with the manager/s in charge of the project before the completion of her/his contract with the UNIDO Independent Evaluation Division.

Annex 8 – Project results framework

Interventions	Objectively Verifiable Indicators	Sources of Verification	Assumptions and Risks
<p>Objectives The project aims to reduce and ultimately eliminate the releases of unintentionally produced POPs and other globally harmful pollutants into the environment and assist China in implementing its relevant obligations under the Stockholm Convention.</p>	<ul style="list-style-type: none"> ➤ Number of medical institutions adopting BEP (baseline: 0; target: 20 for demonstration and 1500 for replication) ➤ Number of dedicated MW disposal facilities adopting BAT (baseline: 0; target: 3 for demonstration and 15 for replication) ➤ Number of dedicated MW treatment facilities adopting non-incineration as BAT/BEP (baseline: 0; target: 3 for demonstration and 120 for replication) ➤ Quantitative reduction of MW produced by medical institutions through BEP application ➤ Reduction in the manufacture and use of medical care products containing hazardous substances such as Hg and PVC containing phthalates ➤ Reduction of PCDD/PCDF releases from MW incineration disposal (baseline: 0; target: 9.7g) ➤ Avoided releases of PCDD/PCDF releases from MW treatment (baseline: 0; target: 12.95g) ➤ Level of the stakeholder awareness of and participation in environmentally sound MW management in high-risk exposure areas (baseline: very low; target: 60%) ➤ Levels of PCDD/PCDF in biological organisms in the vicinity of dedicated MW treatment and disposal facilities (baseline 	<ul style="list-style-type: none"> ➤ Texts of revised or established regulations, standards, and policies and their specifications ➤ Bidding documents calling for proposals for the purchase of technical services and equipment ➤ TORs of consulting services ➤ Service contracts ➤ Work plans ➤ Thematic study reports ➤ M & E reports 	<ul style="list-style-type: none"> ➤ The country, society and sector support actions to reduce PCDD/PCDF releases ➤ Various barriers can be successfully removed with effective interventions from this project ➤ MW treatment will be an economically viable option ➤ The regulatory and policy framework established by this project can continue to work effectively after the completion of the project

	<p>and target to be determined in the first year of project implementation)</p> <ul style="list-style-type: none"> ➤ Social and economic benefits from the adoption of BAT/BEP (baseline: 0; target to be determined in the middle and terminal stages of project implementation) 		
Interventions	Objectively Verifiable Indicators	Sources of Verification	Assumptions and Risks
Outcome 1: Strengthened regulatory framework in place and pollution performance levels upgraded or established			
Output 1.1 Strengthen the regulatory framework for MW management			
<p>1.1.1 Investigate, analyze and evaluate the laws and regulations on MW s and their implementation</p> <p>1.1.2 Adapt the related regulations to the BAT/BEP requirements</p> <p>1.1.3 Hold workshop to discuss the revised drafts</p> <p>1.1.4 Circulate the drafts among governmental agencies, enterprises, academia, international community, and the public for comments</p> <p>1.1.5 Promulgate the adapted regulations, and introduce and implement enforcement mechanisms</p>	<ul style="list-style-type: none"> ➤ Adapted Detailed Rules to Implement Measures on MW Operating License Management ➤ Adapted Measures on MW (as Hazardous Waste) Consignment Management ➤ Adapted Classification System of MW 	<ul style="list-style-type: none"> ➤ Explanations of Detailed Rules to Implement Measures on M W Operating License Management ➤ Explanations of Adapted Measures on Hazardous Waste Consignment Management ➤ Explanations of Adapted Classification System of MWs ➤ Meeting minutes ➤ Collection of suggestions 	<ul style="list-style-type: none"> ➤ Government will endorse and adopt the adapted regulations and measures ➤ The adapted regulations meet the international requirements and respect the actual situation of China ➤ The adapted regulations are practicable for implementation ➤ The adapted regulations are not enforced
Output 1.2 Upgrade or establish pollution performance levels for dedicated MW disposal facilities			
<p>1.2.1 Investigate and analyze feasibility to upgrade or establish new pollution performance levels</p>	<ul style="list-style-type: none"> ➤ Technical standards upgraded or established regarding: <ul style="list-style-type: none"> - Pollution control for incineration of MW 	<ul style="list-style-type: none"> ➤ Explanations on standards upgraded or established regarding: <ul style="list-style-type: none"> - Pollution control for incineration 	<ul style="list-style-type: none"> ➤ The upgraded performance levels can meet the requirements of BAT/BEP and

<p>1.2.2 Draft the upgraded pollution control levels for the incineration of MW to the BAT achievable performance level</p> <p>1.2.3 Draft the pollution performance levels for non-incineration treatment of MW</p> <p>1.2.4 Hold a workshop with representatives from international organizations, governments, academia, enterprises, and the public to review the proposed performance levels</p> <p>1.2.5 Select 3 provinces for first pilot implementation of the upgraded performance levels</p>	<ul style="list-style-type: none"> - Pollution control for non-incineration treatment of MW ➤ PCDD/PCDF release in pilot provinces meeting upgraded performance levels ➤ Other pollutants release in pilot provinces meeting established performance levels 	<p>processes</p> <ul style="list-style-type: none"> - Pollution control for non-incineration treatment of MW ➤ Investigation and feasibility study reports ➤ Meeting minutes ➤ Collection of suggestions 	<p>also respect the actual technical and economic situation</p> <ul style="list-style-type: none"> ➤ Various stakeholders can be effectively involved throughout the whole process ➤ Selected pilot provinces are willing to implement the upgraded performance levels first ➤ The Government will accept and promulgate the established or revised performance levels nationwide
Interventions	Objectively Verifiable Indicators	Sources of Verification	Assumptions and Risks
<p>1.2.6 Select 3 provinces for first pilot implementation of the upgraded performance levels</p> <p>1.2.7 Revise the performance levels by incorporating the experience from the pilot implementation</p> <p>1.2.7 Circulate the revised performance levels for comments and forward to SEPA for review</p> <p>1.2.8 Promulgate nationwide the revised performance levels as technical standard</p>	<ul style="list-style-type: none"> ➤ 	<ul style="list-style-type: none"> ➤ 	<ul style="list-style-type: none"> ➤
<p>Outcome 2: Strengthened institutional capacity for integrated MW management at national and local levels in support of the Nationwide Investment Plan</p>			
<p>Output 2.1 Establish a long-term national coordination mechanism for integrated MWs management</p>			

<p>2.1.1 Establish a national MW management steering group led by SEPA and MOH and composed of other relevant ministries for coordination of integrated MW management</p> <p>2.1.2 Regularly hold coordination meetings to provide guidance and coordination on issuance of laws, regulations, standards and policies and other important issues</p> <p>2.1.3 Provide guidance to the establishment and operation of local steering groups on MW management</p>	<ul style="list-style-type: none"> ➤ A national inter-ministerial coordination mechanism for integrated MW management ➤ Local inter-departmental coordination mechanism for integrated MW management ➤ Improved coordination of MWs management at national and local levels 	<ul style="list-style-type: none"> ➤ Working rules of the national steering group and the local steering groups ➤ Work plans and annual reports of the national and local steering groups ➤ Minutes of review, coordination and guidance meetings ➤ Resolutions agreed by the steering groups 	<ul style="list-style-type: none"> ➤ Relevant ministries agree on and support the concept of integrated MW management ➤ Coordination and cooperation can be achieved among various ministries
<p>Output 2.2 Strengthen supervision and inspection on medical institutions in MW management</p>			
<p>2.2.1 Based on Output 3.1, develop specifications for Health Agencies to supervise Medical Institutions in the adoption of BEP on MW Management</p> <p>2.2.2 Organize health departments to have trainings on the specifications based on the staff training system established by Output 7.4</p>	<ul style="list-style-type: none"> ➤ Specifications for Health Departments to supervise Medical Institutions in adoption of BEP on MW Management 	<ul style="list-style-type: none"> ➤ Explanations on specifications for Health Departments to supervise Medical Institutions in adoption of BEP on MW Management 	<ul style="list-style-type: none"> ➤ Health agencies attach sufficient importance to MW management supervision
<p>2.2.3 Establish and implement a MW data reporting system between medical institutions and authorities</p> <p>2.2.4 Establish a mechanism for the local environment and health departments to regularly inspect the implementation of BEP for MW management</p>	<ul style="list-style-type: none"> ➤ Number of trainees ➤ Capacity for supervision and inspection improved ➤ MW amount reporting system ➤ MW traceability system ➤ A dedicated management system for integrated MW management 	<ul style="list-style-type: none"> ➤ Training materials ➤ Inventory of MW ➤ Monitoring report ➤ Consignments saved and archived for tracing ➤ Intensive inspection reports 	<ul style="list-style-type: none"> ➤ Personnel training system established by Output 7.4 is effective in practice

		➤ Management system records	
Output 2.3 Strengthen the monitoring and supervision capacity on MW treatment and disposal			
<p>2.3.1 Develop monitoring and supervision standard norms</p> <p>2.3.2 Train the municipal monitoring and supervision staff on the application of the methods</p> <p>2.3.3 Develop and implement monitoring data publishing and reporting system</p> <p>2.3.4 Undertake formal quarterly inspections in pilot MW disposal facilities during the project implementation period</p>	<ul style="list-style-type: none"> ➤ Methods on monitoring and supervision of pollutants release from MW facilities ➤ Municipal monitoring and inspection capacity improved ➤ On-line monitoring network connected with the environmental authorities established ➤ Monitoring data publishing and reporting systems established 	<ul style="list-style-type: none"> ➤ Explanations on methods on monitoring and supervision of pollutants release from MW ➤ Monitoring data ➤ Training materials ➤ Regularly published monitoring and statistical data ➤ Regularly reported monitoring and statistical data 	<ul style="list-style-type: none"> ➤ The dedicated treatment facilities install on-line monitoring system in compliance with related regulations and standards ➤ The local EPBs have the access to the on-line monitoring data of the dedicated treatment facilities
Output 2.4 Strengthen the environmental impact assessment on disposal facilities			
<p>2.4.1 Develop Guideline for Environmental Impact Assessment on MW Disposal Facilities to include related existing or new engineering design standards and other related standards</p> <p>2.4.2 Hold a training workshop on the implementation of the guideline to a qualified number of certified environmental impact assessors</p> <p>2.4.3 Issue and implement the guideline nationwide on disposal facilities</p> <p>2.4.4</p>	<ul style="list-style-type: none"> ➤ Guideline for Environmental Impact Assessment on MW Disposal Facilities ➤ Number of environmental impact assessors having received the training ➤ Number of disposal facilities assessed with the guideline, including number of accepted or rejected proposals 	<ul style="list-style-type: none"> ➤ Explanations on Guideline for Environmental Impact Assessment on MW Disposal Facilities ➤ Training materials and list of trainees ➤ EIA reports 	<ul style="list-style-type: none"> ➤ The EIA reports prepared in accordance with the Guideline will be used by the environmental authorities in approving or not approving the proposals for the construction of dedicated MW disposal facilities

Interventions	Objectively Verifiable Indicators	Sources of Verification	Assumptions and Risks
Output 2.5 Strengthen the capacity to audit the operation of disposal facilities			
<p>2.5.1 Design and disseminate a methodology to audit disposal facilities</p> <p>2.5.2 Develop accreditation and management measures for the establishment of national audit services</p> <p>2.5.3 Support and encourage the existing institutions for the audit of the operation of disposal facilities</p>	<ul style="list-style-type: none"> ➤ Methodology to audit disposal facilities ➤ Measures on Accreditation and Management of Auditing Institutions for MW Facilities ➤ New facilities checked and accepted ➤ Existing facilities operation risk evaluated 	<ul style="list-style-type: none"> ➤ Explanations on methodology to audit disposal facilities ➤ Explanations on Accreditation and Measures on Management of Auditing Institutions for MW Facilities ➤ Evaluation reports ➤ Correction reports 	<p>Evaluation and correction reports can be used as a strong reference by the environmental authorities in approving or suspending MW management license</p>
Outcome 3: System management demonstrated and BEP based management of MW including measurement and monitoring applied			
Output 3.1 Demonstrate BEP in medical institutions for the management of MW			
<p>3.1.1 Develop Specifications on MW Management in Medical Institutions</p> <p>3.1.2 Develop booklet for BEP Application in Medical Institutions for pilot application based on the previously achieved experience</p> <p>3.1.3 Select 20 representative medical institutions for the demonstration program</p> <p>3.1.4 Develop the demonstration program, covering purchasing practices, reduction, reuse, waste segregation, intermediate storage, transportation and traceability</p> <p>3.1.5 Establish MW management</p>	<ul style="list-style-type: none"> ➤ Booklet of BEP Application in Medical Institutions ➤ Reduced MW amount ➤ Reduced use of disposable medical products ➤ Reduced use of Hg contained products ➤ Reduced use of PVC products ➤ Reduced injuries to MW working staff ➤ Improved personnel capacity for MW management and improved awareness ➤ Established MW management system ➤ Specifications on MW Management in Medical Institutions ➤ Number of occupational injuries and accidents in healthcare facilities caused by 	<ul style="list-style-type: none"> ➤ Tender document calling for technical services needed in demonstration of BEP in Medical Institutions ➤ MoUs signed with the selected medical institutions for demonstration ➤ Monthly progress reports ➤ Inventory of MWs ➤ Evaluation reports ➤ Technical training materials ➤ Recorded texts, photos and videos ➤ Accident Report Form (incl. spillage response) 	<ul style="list-style-type: none"> ➤ The selected demonstration institutions are active and cooperative ➤ The demonstration plan is feasible ➤ The trainers can help the trainees understand the BEP ➤ Increase hospital staff awareness when accidents are reported and statistics are presented / published. Get the information about occupational safety to implement specific measures in healthcare facilities

<p>systems and carry out staff trainings on BEP application at the demonstration institutions</p> <p>3.1.6 Monitor, record and evaluate the implementation process and results</p>	<p>handling and treatment of medical care</p>		
Interventions	Objectively Verifiable Indicators	Sources of Verification	Assumptions and Risks
<p>3.1.7 Validate the draft booklet by incorporating lessons and experience from the evaluations, issue and disseminate the validated booklet</p>			
Outcome 4: BAT demonstrated for MW disposal using thermal combustion including air pollution monitoring			
Output 4.1 Demonstrate the application of BAT for incineration process of MW			
<p>4.1.1 Develop a draft Booklet of BAT Application for Incineration Process of MW</p> <p>4.1.2 Develop a draft Specification for Construction and Operation of MW Disposal Facility Using Incineration Process</p> <p>4.1.3 Select one representative existing facility for demonstration</p> <p>4.1.4 Carry out the feasibility study and EIA of the demonstrative facility and develop the demonstration implementation plan</p> <p>4.1.5 Retrofit and optimize the operation</p>	<ul style="list-style-type: none"> ➤ Booklet of BAT Application for Incineration Process of MW ➤ Specification for Construction and Operation of MW Disposal Facility Using Incineration Process ➤ Demonstration implementation plan ➤ Skills of operators improved ➤ Overall management level improved ➤ PCDD/PCDF releases consistent with performance level associated with BAT ➤ Releases of other pollutants meeting the limits ➤ Solid residues to landfill meeting the limits 	<ul style="list-style-type: none"> ➤ Tender document calling for technical services needed in demonstration of BAT in selected incineration facilities ➤ MOUs signed with selected facilities ➤ Monthly progress reports ➤ Evaluation reports ➤ Report of engineering validation ➤ Technical training materials ➤ Recorded texts, photos and videos 	<ul style="list-style-type: none"> ➤ The selected demonstration facilities are willing to cooperate ➤ The demonstration implementation is feasible ➤ The purchased equipment is reliable ➤ Modified facilities can meet the release standards ➤ The trainers can help the trainees master the operating skills

<p>of the modified facility, including on-line PCDD/PCDF sampling system, and train the relevant managerial and operation staff</p> <p>4.1.6 Validate the modified facility, monitor, record and evaluate the implementation process and results</p> <p>4.1.7 Validate the Booklet and the Specification by incorporating lessons and experience from the evaluation, issue and disseminate the validated Booklet and Specification</p>	<p>for safe disposal</p>		
<p>Interventions</p>	<p>Objectively Verifiable Indicators</p>	<p>Sources of Verification</p>	<p>Assumptions and Risks</p>
<p>Output 4.2 <i>Demonstrate the application of BAT in pyrolysis process of MWs</i></p>			

<p>4.2.1 Develop a Booklet of BAT application in pyrolysis process of MW</p> <p>4.2.2 Develop a draft Specification for Construction and Operation of MW Disposal Facility Using Pyrolysis Process</p> <p>4.2.3 Select 2 representative existing facilities for demonstration</p> <p>4.2.4 Carry out the feasibility study and EIA of the demonstrative facility and develop the demonstration implementation plan</p> <p>4.2.5 Retrofit and optimize the operation of the modified facility, including on-line PCDD/PCDF sampling system, and train the relevant managerial and operation staff</p> <p>4.2.6 Validate the modified facility, and monitor, record and evaluate the implementation process and results</p> <p>4.2.7 Validate the Booklet and the Specification by incorporating lessons and experience from the evaluation, issue and disseminate the validated Booklet and Specification</p>	<ul style="list-style-type: none"> ➤ Booklet of BAT Application in Pyrolysis Process for MWs Disposal ➤ Specification for Construction and Operation of MW Disposal Facility Using Pyrolysis Process ➤ Demonstration implementation plan ➤ Skills of operators improved ➤ Overall management level improved ➤ PCDD/PCDF releases consistent with performance level associated with BAT ➤ Release of other pollutants within permitted limits ➤ Solid residues to landfill meeting the standards of safe disposal 	<ul style="list-style-type: none"> ➤ Tender document calling for technical services needed in demonstration of BAT in selected pyrolysis incinerator facilities ➤ MOUs signed with selected facilities ➤ Monthly progress reports ➤ Evaluation reports ➤ Report of engineering validation ➤ Technical training materials ➤ Recorded texts, photos and videos 	<ul style="list-style-type: none"> ➤ The selected demonstration facilities are active and cooperative ➤ The demonstration implementation is feasible ➤ The purchased equipment is reliable ➤ Modified facilities can meet the performance levels ➤ The trainers can help the trainees master the operating skills
<p>Outcome 5: BAT/BEP demonstrated for MW thermal non-combustion, chemical treatment or other appropriate non-combustion treatment</p>			
<p>Output 5.1 Demonstrate the application of BAT in autoclaving process of MW</p>			
<p>5.1.1 Develop Booklet of BAT Application in Autoclaving Process of MW</p> <p>5.1.2 Develop a draft Specification for Construction and Operation of MW Disposal Facility Using Autoclaving Process</p>	<ul style="list-style-type: none"> ➤ Booklet of BAT Application in Autoclaving Process for MW Treatment ➤ Specification for Construction and Operation of MW Disposal Facility Using Autoclaving Process 	<ul style="list-style-type: none"> ➤ Tender document calling for technical services needed in demonstration of BAT in selected autoclave facilities ➤ MoUs signed with selected facilities 	<ul style="list-style-type: none"> ➤ The selected demonstration facilities are active and cooperative

5.1.3	Select one representative existing facility for demonstration			
Interventions		Objectively Verifiable Indicators	Sources of Verification	Assumptions and Risks
5.1.4	Carry out the feasibility study and EIA of the demonstration facility and develop the demonstration implementation plan	<ul style="list-style-type: none"> ➤ Testing methods for emissions and discharges ➤ Demonstration implementation plan ➤ Skills of operators improved 	<ul style="list-style-type: none"> ➤ Monthly progress reports ➤ Evaluation reports ➤ Report of engineering validation ➤ Technical training materials ➤ Recorded texts, photos and videos 	<ul style="list-style-type: none"> ➤ The demonstration implementation is feasible ➤ The purchased equipment is reliable
5.1.5	Procure, retrofit, and operate the modified facility and train the relevant managerial and operation staff	<ul style="list-style-type: none"> ➤ Overall management level improved ➤ Emission of VOCs and other pollutants meeting the performance levels 		<ul style="list-style-type: none"> ➤ Modified facilities can meet the performance levels
5.1.6	Validate the modified facility, and monitor, record and evaluate the implementation process and results	<ul style="list-style-type: none"> ➤ Validation of sterilization process ➤ Treated waste meeting standards for safe disposal to landfill 		<ul style="list-style-type: none"> ➤ The trainers can help the trainees master the operating skills
5.1.7	Validate the Booklet and the Specification by incorporating lessons and experience from the evaluation, issue and disseminate the validated Booklet and Specification			
Output 5.2 Demonstrate the application of BAT in other non-incineration processes of MW				
5.2.1	Develop Booklet of BAT Application in Other Non-incineration Processes of MWs	<ul style="list-style-type: none"> ➤ Booklet of BAT Application in Non-incineration Processes for MW Treatment ➤ Specification for Construction and Operation of MW Disposal Facility Using Other Non-incineration Process 	<ul style="list-style-type: none"> ➤ Tender document calling for technical services needed in demonstration of BAT in selected facilities ➤ MoUs signed with selected facilities 	<ul style="list-style-type: none"> ➤ The selected demonstration facilities are active and cooperative ➤ The demonstration implementation is feasible
5.2.2	Develop a draft Specification for Operation of MW Disposal Facility Using Other Non-incineration Process	<ul style="list-style-type: none"> ➤ Demonstration implementation plan ➤ Skills of operators improved 	<ul style="list-style-type: none"> ➤ Monthly progress reports ➤ Evaluation reports 	<ul style="list-style-type: none"> ➤ The purchased equipment is reliable
5.2.3	Select 2 representative existing facilities for demonstration of microwave irradiation, chemical disinfection or combination	<ul style="list-style-type: none"> ➤ Overall management level improved ➤ Emission of VOCs and other pollutants meeting the limits 	<ul style="list-style-type: none"> ➤ Report of engineering validation ➤ Technical training materials 	<ul style="list-style-type: none"> ➤ Modified facilities can meet the standards
5.2.4	Carry out the feasibility study and EIA of the demonstrative facilities	<ul style="list-style-type: none"> ➤ Validation of sterilization process 	<ul style="list-style-type: none"> ➤ Recorded texts, photos and videos 	<ul style="list-style-type: none"> ➤ The trainers can help the trainees master the operating skills

<p>and develop the demonstration implementation plan</p> <p>5.2.5 Procure, retrofit and operate the modified facility and train the relevant managerial and operation staff</p> <p>5.2.6 Validate the modified facility and monitor, record and evaluate the implementation process and results</p> <p>5.2.7 Validate the Booklet and the Specification by incorporating lessons and experience from the evaluation, issue and disseminate the validated Booklet and Specification</p>	<ul style="list-style-type: none"> ➤ Treated waste meeting standards for safe disposal to landfill 		
Interventions	Objectively Verifiable Indicators	Sources of Verification	Assumptions and Risks
Output 5.3 Demonstrate the application of BAT/BEP for treatment and disposal of MWs in remote rural areas			
<p>5.3.1 Develop Booklet of BAT/BEP Application for Treatment and Disposal of MW in remote rural areas</p> <p>5.3.2 Select representative remote rural areas for demonstration of the recommended BAT/BEP of the Booklet</p> <p>5.3.3 Develop the demonstration implementation plan</p> <p>5.3.4 Procure, install and operate the facilities and train the relevant managerial and operation staff</p> <p>5.3.5 Monitor, record and evaluate the implementation process and results</p> <p>5.3.6 Validate the Booklet by incorporating lessons and experience from the evaluation, issue and disseminate the</p>	<ul style="list-style-type: none"> ➤ Booklet of BAT/BEP Application for Treatment and Disposal of MW in remote rural areas ➤ Operation and pollutant release indicators of the demonstrated facilities meeting BAT achievable limits ➤ Skills of the facility operators improved ➤ Overall MW management capacity improved ➤ Established policies and management systems ➤ Treated waste meeting standards for safe disposal to landfill 	<ul style="list-style-type: none"> ➤ Investigation reports on MW management status in proposed demonstration areas ➤ Demonstration implementation plan ➤ Report on the economic, technical, policy and management studies of the demonstration projects ➤ Training materials ➤ Evaluation reports 	<ul style="list-style-type: none"> ➤ The municipal authorities are stably staffed ➤ The managerial and operating staff in demonstration areas can properly treat MW through training ➤ Reliable and affordable equipment can be locally provided or introduced from abroad ➤ Proper fee-based system can be implemented

validated Booklet			
Outcome 6: Spatially integrated and coordinated MW management and disposal systems demonstrated in geographically defined clusters that include medical institutions and dedicated treatment and disposal facilities			
Output 6.1 Demonstrate the application of integrated MW management among institutions at the municipal level			
<p>6.1.1 Select 3 demonstrations municipalities</p> <p>6.1.2 Participation of project stakeholders to international symposia and undertake field visits to learn international experience in integrated MW management among institutions</p> <p>6.1.3 Establish inter-departmental mechanism for policy consultation and coordination for integrated MW management among institutions at municipal level</p> <p>6.1.4 Develop municipal-level integrated MW management information system</p> <p>6.1.5 Monitor, record and evaluate the implementation process and results</p>	<ul style="list-style-type: none"> ➤ Municipal-level Integrated MW Management Plan ➤ Municipal Integrated MW Management Coordination Mechanism ➤ Municipal integrated MW management information system ➤ Established municipal policies, regarding MW treatment charge, taxation, financial support, market orientation and other incentives 	<ul style="list-style-type: none"> ➤ Workshop notes and proceedings ➤ Overseas study tour report ➤ Report on the development of Municipal Integrated MW Management Plan ➤ Report on municipal MW treatment policies ➤ Report on the development of municipal integrated MW management information system ➤ Training materials ➤ Evaluation reports 	<ul style="list-style-type: none"> ➤ The municipal authorities are stably staffed ➤ Good cooperation among the municipal authorities, medical institutions, and dedicated treatment and disposal facilities can be achieved ➤ MW fee-based system can be implemented
Interventions	Objectively Verifiable Indicators	Sources of Verification	Assumptions and Risks
Output 6.2 Demonstrate coordinated MW treatment among the dedicated MW facilities at the provincial level			
<p>6.2.1 Select 3 demonstration provinces for coordinated MW management and treatment</p> <p>6.2.2 Assist the selected provinces establish provincial MW management steering groups</p> <p>6.2.3 Hold a coordinating workshop among the provincial and municipal departments and the dedicated MW</p>	<ul style="list-style-type: none"> ➤ Better social, economic and environmental benefits achieved by disposal technologies: <ul style="list-style-type: none"> - Different MW streams treated by different way - Effective response to emergencies - Co-building between neighboring municipalities 	<ul style="list-style-type: none"> ➤ Explanations on Specifications of BAT/BEP Application in Coordinated MW Treatment Planning and Implementation ➤ Bidding document calling for technical services for coordinated MW treatment planning and implementation ➤ Investigation and feasibility study 	<ul style="list-style-type: none"> ➤ The provincial authorities are stably staffed ➤ Good coordination and cooperation can be achieved by the following actions: <ul style="list-style-type: none"> - Strengthen supervision and inspection to ensure safe treatment of all

<p>treatment facilities</p> <p>6.2.4 Develop and carry out a logistics plan for the coordinated activities</p> <p>6.2.5 Promulgate and implement supporting policies by the local government</p> <p>6.2.6 Monitor, record and evaluate the implementation process and results</p>	<ul style="list-style-type: none"> - Co-building MW treatment facility with hazardous waste treatment facility 	<p>reports</p> <ul style="list-style-type: none"> ➤ Implementation plan ➤ Meeting minutes ➤ Texts of promulgated policies ➤ Evaluation reports 	<p>types of MW</p> <ul style="list-style-type: none"> - Raise the awareness of the local governments about the importance of safe MW treatment - Develop reasonable benefit sharing mechanism among dedicated facilities ➤ Accidental risks from transportation can be managed ➤ Consignment system is effectively implemented
<p>Outcome 7. A national strategy and action plan of BAT/BEP for MW management and disposal developed and formulated based on the experience gained through the demonstration activities of the project</p>			
<p>Output 7.1 Formulate techno-economic policies that promote the adoption of BAT/BEP</p>			
<p>7.1.1 Investigate and analyze the needs of techno-economic policies according to the requirements of BAT/BEP and the Convention</p> <p>7.1.2 Draft the needed techno-economic policies</p> <p>7.1.3 Hold a policy dialogue workshop attended by representatives from governments, international and domestic experts, enterprises, and the public</p> <p>7.1.4 Circulate the policy texts for comments</p> <p>7.1.5 Incorporate the comments into the final policy texts</p>	<ul style="list-style-type: none"> ➤ Techno-economic policies promoting adoption of BAT/BEP in MW management ➤ MW treatment fee-based system ➤ Policies encouraging investment in MW treatment from the private sector ➤ Policies encouraging commercialization of MW treatment ➤ Measures of Franchised Operation of MW Treatment 	<ul style="list-style-type: none"> ➤ Explanations on techno-economic policies promoting adoption of BAT/BEP in MW management ➤ Explanations on MW treatment fee-based system ➤ Explanations on policies encouraging investment in MW treatment from the private sector ➤ Explanations on policies encouraging commercialization of MW treatment ➤ Explanations on Measures of Franchised Operation of MW Treatment ➤ Meeting minutes 	<ul style="list-style-type: none"> ➤ The existing legal framework provides clear status to commercialization in waste management sector ➤ The established techno-economic policies can meet the BAT/BEP requirements and also respect the actual situation of China ➤ Policies implementation is pushed by proper incentives

Interventions	Objectively Verifiable Indicators	Sources of Verification	Assumptions and Risks
7.1.6 Submit the policies to SEPA and other related ministries for promulgation			
Output 7.2 Demonstrate and promote different commercial models for the construction and operation of MW treatment and disposal facilities			
<p>7.2.1 Develop investment models to facilitate MW treatment and disposal</p> <p>7.2.2 Conduct trainings for government officials and enterprises managers from at least 60 municipalities in the realization and management of MW management projects</p> <p>7.2.3 Assist at least 20 municipalities in establishing MW management steering groups</p> <p>7.2.4 Provide technical assistance to the municipalities with MW management steering group in adopting BOT, BOO, TOT models, etc.</p> <p>7.2.5 Provide incentives to facility owners to purchase certified equipment</p> <p>7.2.6 Establish technical consulting institutions to provide technical services in options for private investment</p>	<ul style="list-style-type: none"> ➤ Specifications on investment models to facilitate MW treatment and disposal ➤ List of trained municipal staff ➤ Investment amount from non-governmental sources ➤ More than 20 municipal MW management steering groups established ➤ Dedicated MW treatment facilities operation meeting pollutant release levels ➤ Dedicated MW treatment facilities operating on a financially sustainable basis ➤ Established technical consulting institutions providing technical services in options for private investment 	<ul style="list-style-type: none"> ➤ Training materials ➤ Contracts signed between the municipal environmental authority and the dedicated MW treatment facilities ➤ Working rules of the municipal MW management steering groups ➤ Monitoring data and reports ➤ Financial statement of the facility owners ➤ Monitoring data and reports ➤ Financial statement of the facility owners ➤ Consulting contracts and reports 	<ul style="list-style-type: none"> ➤ The municipal governments take in great consideration the safe MW treatment ➤ The municipal governments alone can not afford the financial and human resources needed to realize safe MW treatment ➤ The municipal government can promote favorable conditions to attract external investment
Output 7.3 Strengthen national capacity to develop new MWs treatment technologies appropriate to China's socio-economic context			
7.3.1 Identify, evaluate and establish the catalogue of processes, techniques and equipment in great demand while not yet made locally available and affordable in China	<ul style="list-style-type: none"> ➤ Program of research, development and application of key technical processes, techniques, and equipment ➤ National investment on R&D of the needed technical processes, techniques and 	<ul style="list-style-type: none"> ➤ Report on program of research, development and application of key technical processes, techniques and equipment 	<ul style="list-style-type: none"> ➤ The national government continues to push the implementation of Construction Plan of Dedicated Hazardous and

	equipment	<ul style="list-style-type: none"> ➤ Meeting minutes ➤ Funding program developed and implemented by national R&D funding authorities 	<p>MW Treatment Facilities</p> <ul style="list-style-type: none"> ➤ The national R&D funding program can be adjusted to emerging needs
Interventions	Objectively Verifiable Indicators	Sources of Verification	Assumptions and Risks
<p>7.3.2 Hold 3 workshops attended by representatives from national and local governments, international technology vendors, domestic research institutes, equipment manufacturers, and treatment operators to discuss technology supplies and demands for incineration, autoclave and other non-incineration technologies</p> <p>7.3.3 Establish incentives to encourage joint development of market needed technologies and equipment by international vendors and domestic research entities</p> <p>7.3.4 Establish incentives for successful application of advanced feasible technologies and equipment</p>	<ul style="list-style-type: none"> ➤ Key equipment locally available and affordable ➤ Joint ventures established and operated profitable 	<ul style="list-style-type: none"> ➤ R&D result appraisal report ➤ Statutes of joint ventures ➤ Financial statement of manufacturing enterprises 	<ul style="list-style-type: none"> ➤ The domestic R&D community has a basis for further R&D ➤ There are effective regulations protecting intellectual property rights and patents
Output 7.4 <i>Develop and implement a MW treatment equipment certification and labelling program</i>			
<p>7.4.1 Develop technical requirements for Certification and Labelling of MW Treatment Equipment</p> <p>7.4.2 Develop procedures on Certification and Labelling of MW Treatment Equipment</p> <p>7.4.3 Strengthen the capacity of certification institutions</p>	<ul style="list-style-type: none"> ➤ Technical requirements for Certification and Labelling of MW Treatment and Disposal Equipment for processes of: <ul style="list-style-type: none"> - Incineration - Pyrolysis - Autoclaving - Microwaving 	<ul style="list-style-type: none"> ➤ Explanations on technical requirements for Certification and Labelling of MW Treatment Equipment ➤ Explanations on Detailed Measures on Certification and Labelling of MW Treatment Equipment ➤ Bidding document recruiting technical services in developing and 	<ul style="list-style-type: none"> ➤ There are existing laboratories capable of PCDD/PCDF analysis ➤ Equipment produced by top manufacturing enterprises can meet the certification requirements ➤ The authorities can strictly enforce the related technical

<p>7.4.4 Strengthen the capacity of the testing institutions and laboratories</p> <p>7.4.5 Hold series of workshop targeting separate technologies, implementation of the certification and labelling program and participation of equipment producers and investors in the program</p> <p>7.4.6 Carry out pilot certification and labelling on qualified products produced by those manufacturing enterprises of better-off conditions</p> <p>7.4.7 Launch extensive publicity in the MW treatment sector</p>	<p>- Chemical disinfections</p> <ul style="list-style-type: none"> ➤ Procedures on Certification and Labelling of MW Treatment Equipment ➤ Number of accredited laboratories and testing institutions ➤ Number of accredited equipment certification institutions ➤ Number of enterprises and products successfully certified and in certification pipeline 	<p>implementing the certification and labelling program</p> <ul style="list-style-type: none"> ➤ Capacity requirements on certification and testing institutions ➤ Designs of labels 	<p>requirements and standards with necessary trainings delivered and awareness raised</p>
Interventions	Objectively Verifiable Indicators	Sources of Verification	Assumptions and Risks
Output 7.5 Establish training and accreditation systems for lifecycle management of MW that support BAT/BEP			
<p>7.5.1 Integrate all the experience and results from demonstrations and other external successful experience to compile textbooks for managerial and technical trainings</p> <p>7.5.2 Develop various curricula to meet different training needs such as entry training, on-the-job training, refresh training, etc.</p> <p>7.5.3 Train the trainers in environmental and health sectors</p> <p>7.5.4 Formulate Regulations and Resources Requirements for MW Management Training Institutions</p> <p>7,5,5 Based on the existing administrative structure and training system of the health administration, establish a 4-tier personnel training system</p>	<ul style="list-style-type: none"> ➤ Number of trainers receiving training ➤ Regulations and Resources Requirements for MW Management Training Institutions ➤ Personnel training systems for lifecycle management of MW ➤ 7 training bases established for training of high-level managerial and technical staff in health agencies and medical institutions ➤ 3 training bases established for training of central MW treatment staff ➤ Number of medical institution staff receiving BEP trainings ➤ Number of dedicated MW treatment staff receiving BAT/BEP trainings ➤ Number of management systems certified 	<ul style="list-style-type: none"> ➤ Tender document recruiting technical services in training the trainers ➤ Training materials, textbooks, and other courseware ➤ Text of Regulations and Resources Requirements for MW Management Training Institutions ➤ Licenses issued by the authorities to the established training bases ➤ Certificates granted to the trainees ➤ Reports on establishment of personnel training systems for lifecycle management of MW ➤ Evaluation reports 	<ul style="list-style-type: none"> ➤ Medical institutions and dedicated MW treatment facilities take in great consideration the personnel training ➤ Compulsory training and authorized certificates are required on some key working posts by law ➤ Training is subject to governance of health and safety ➤ Existing administrative management and training system of the health sector is appropriate for MW management training ➤ Existing environmental

<p>covering national, provincial, municipal, and county medical institutions, including establishment of 7 training bases for training of high-level managerial and technical staff in health agencies and medical institutions</p> <p>7.5.6 Based on the existing environmental technical training and research system, establish 3 training bases for training of dedicated MW treatment staff</p>			<p>technical training and research system is appropriate for MW disposal training</p>
<p><i>Output 7.6 Extensive stakeholder awareness raising, including a series of national and international workshops</i></p>			
<p>7.6.1 Prepare technical materials for targeted stakeholder awareness for administrators, managers and other influential players in national investment programs where the outputs of the project can potentially be replicated.</p> <p>7.6.2 Launch awareness raising and education campaign to the identified stakeholders using direct communication including publications and lectures</p>	<ul style="list-style-type: none"> ➤ Plan for stakeholder awareness and education on MW management ➤ Number or percentage of the stakeholders receiving information ➤ Improved stakeholder awareness levels ➤ BAT/BEP extended to medical product manufacturing enterprises ➤ Reduced use of hazardous and toxic substances in manufacturing medical products 	<ul style="list-style-type: none"> ➤ Stakeholder awareness investigation questionnaires ➤ Materials for stakeholder awareness raising and education ➤ Reports by industrial associations ➤ Academic articles ➤ Evaluation reports ➤ Meeting notices and list of participants 	<ul style="list-style-type: none"> ➤ Materials are made easy to understand, impressive, and acceptable to the stakeholders ➤ Industrial associations have strong influences on enterprises in improving awareness and changing behaviors
<p>Interventions</p>	<p>Objectively Verifiable Indicators</p>	<p>Sources of Verification</p>	<p>Assumptions and Risks</p>
<p>- Mobilize industrial associations to introduce BAT/BEP among medical product manufacturing enterprises</p> <p>- Mobilize NGOs to introduce knowledge about MW treatment in hospitals, communities, and schools</p> <p>7.6.3 Promote academic and professional</p>	<ul style="list-style-type: none"> ➤ Improved medical product design considering easier recycle and reuse ➤ Experience, lessons, results and impacts summarized ➤ National experience presented, and international experience learned 	<ul style="list-style-type: none"> ➤ Meeting minutes ➤ Workshop/seminar proceedings 	<ul style="list-style-type: none"> ➤ Project results including raw data can be disseminated effectively to the scientific research community ➤ National and international stakeholders can be widely mobilized ➤ Provinces will have the

<p>articles for environmentally sustainable MW management</p> <p>7.6.4 Organize a workshop by the end of this project bringing together all stakeholders and consultants/companies involved in this project to evaluate the outcomes of the project</p> <p>7.6.5 Hold a national workshop with participation from all provinces and stakeholders</p> <p>7.6.6 Hold an international workshop to share the national experience with representatives from other countries and also learn from their experiences</p>			<p>willingness to implement BAT/BEP in the sector of MW management</p>
<p>Outcome 8: Project management and monitoring and evaluation</p>			
<p>Output 8.1 Establish the project management structure</p>			
<p>8.1.1 Establish the Steering group by relying on resources from related ministries or commissions at the national level and from local governmental agencies</p> <p>8.1.2 Establish the National Project management Team under CIO</p> <p>8.1.3 Recruit a CTA, a NTA, policy experts, technical experts in MW management, and evaluation and programming experts to form a PET</p> <p>8.1.4 Establish 3 local PMOs in selected provinces for intensive demonstrations</p> <p>8.1.5 Carry out series of management training classes to the national/local</p>	<ul style="list-style-type: none"> ➤ Steering group established ➤ National Project Management Team established with necessary office equipment procured ➤ National project expert team established ➤ 3 local PMOs established ➤ Project management capabilities improved at national and local levels 	<ul style="list-style-type: none"> ➤ Working rules of the Steering group ➤ TORs of the project management staff, including the project managers, coordinator, and technical support staff ➤ Expert recruitment notices and TORs for the CTA, NTA, policy experts, technical experts in MW management, and evaluation and programming experts ➤ TORs of the local PMOs ➤ Training materials on contractual management, project management tools, and basics of MW management and disposal 	<ul style="list-style-type: none"> ➤ Various ministries agree on and support the project ➤ Coordination and cooperation can be achieved among various ministries ➤ Qualified project management staff can be recruited ➤ Qualified experts can be recruited ➤ The selected demonstration provinces have strong willingness for participation and cooperation

project management staff			
Interventions	Objectively Verifiable Indicators	Sources of Verification	Assumptions and Risks
Output 8.2 Design and implement an M&E mechanism according to GEF M&E procedures			
8.2.1 Hold the Inception Workshop 8.2.2 Prepare the Inception Report 8.2.3 Measure impact indicators on an annual basis 8.2.4 Prepare Annual Project Reports and Project Implementation Reviews 8.2.5 Hold annual tripartite review meetings 8.2.6 Hold biannual Steering group meetings 8.2.7 Carry out mid-term external evaluation 8.2.8 Carry out final external evaluation 8.2.9 Complete the Terminal Report 8.2.10 Carry out annual project financial audits 8.2.11 Carry out biannual visits to selected filed sites 8.2.12 Establish a project management information system (MIS), including a project website to disseminate information to various stakeholders	<ul style="list-style-type: none"> ➤ Inception Workshop held ➤ Detailed work plans prepared ➤ Data and information against indicators input into the MIS ➤ Non-compliances identified and corrected ➤ Technical and political guidance from the Steering group ➤ Experience summarized and recommendations raised ➤ Problems identified and recommendations provided by field visits ➤ MIS established and made functional ➤ Project information, experience and lessons disseminated through website 	<ul style="list-style-type: none"> ➤ Inception workshop meeting minutes ➤ Inception Report ➤ Annual Project Reports and Project Implementation Reviews ➤ Biannual Steering group meeting minutes ➤ Mid-term and terminal external evaluation reports ➤ Terminal Report ➤ Annual project financial audit reports ➤ Field inspection reports ➤ MIS development documentations and reports generated by properly retrieving data and information from the MIS ➤ Project website development and maintenance documentations 	<ul style="list-style-type: none"> ➤ The trained project management staff can well perform their jobs required in TORs ➤ Qualified external evaluation experts can be recruited ➤ No extreme weather conditions or other extreme events upon field visits ➤ Qualified IT service providers can be recruited to develop the MIS, including the project website ➤ A data and information collection mechanism among various stakeholders at different levels can be established to activate the MIS