UNEP Global Mercury Partnership[1]

Draft Revised Business Plan of the Mercury Waste Management Partnership Area - December 2015 -

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This Business Plan describes the activities of the Mercury Waste Management partnership area of the United Nations Environmental Programme (UNEP) Global Mercury Partnership. It serves as a planning and communication vehicle both for Partners and others.

The purpose of the business plan is to provide a framework for developing and implementing projects. The business plan is to serve as a resource for providing a common, cohesive structure for implementing the UNEP Global Mercury Partnership on Waste Management.

Through UNEP Governing Council Decision 24/3, UNEP is requested, working in consultation with Governments and other stakeholders, to strengthen the UNEP Global Mercury Partnership. The Government of Japan initiated this partnership area in early 2008 as a means of strengthening the UNEP Global Mercury Partnership on Waste Management.

The partnership is open for government and stakeholder participation. In UNEP Governing Council Decision 24/3 part IV paragraph 27, UNEP is tasked with working in consultation with Governments and stakeholders to strengthen the UNEP Global Mercury Partnerships. New activities and partners are encouraged within the UNEP Global Mercury Partnership.

[1] The UNEP Global Mercury Partnership is a *voluntary initiative* where government, non-government, public and private entities have agreed to work together to achieve the goal of the Partnership. For more information on the UNEP Global Mercury Partnership, please see Overarching Framework UNEP Global Mercury Partnership" available from http://www.unep.org/hazardoussubstances/LinkClick.aspx?fileticket=rsuIRqojHyc%3D&tabid=269&language=en-US

I. Summary of the Issue

Mercury waste[2] is not readily identifiable since waste consisting of elemental mercury, containing or contaminated with mercury enters the waste stream along with other municipal, medical, agricultural and industrial waste. Therefore, mercury concentrations in most waste streams are directly related to the level of mercury in the products or materials.

This partnership aims to support the objectives of Overall Goal of Partnership; minimize and, where feasible, eliminate mercury releases to air, water, and land from waste containing mercury and mercury compounds by following a lifecycle management approach.

Lifecycle management (LCM) is a framework to analyse and manage the sustainability performance of goods and services (UNEP/SETAC 2009). When it is applied to waste management, in the narrow sense, lifecycle of waste management covers waste separation at source, collection, transportation, treatment and disposal, and in the broad sense, lifecycle of waste management covers material procurement, production, product use, and waste collection, transportation, treatment and disposal.

Efforts to reduce generation of mercury wastes will be realized through cooperation with the Mercury-containing Products Partnership Area and the promotion of environmentally sound storage will be realized through cooperation with the Supply/Storage Partnership Area.

The partnership area puts priorities in the following actions:

a. Identify and disseminate environmentally sound collection, transportation, treatment and disposal techniques/practices for different kinds of mercury wastes to reduce mercury releases from waste by following a lifecycle management approach;
b. Assess environmental impacts of current waste management practices and processes, including providing support to countries to assess their national situation (e.g. development of national mercury waste inventories and priority setting) and needs; and
c. Promote public awareness of the hazards regarding mercury wastes and their management and support community engagement in the activities of the Waste Management Partnership.

II. Objective of the Partnership Area

The overall goal of the UNEP Global Mercury Partnership is to protect human health and the global environment from the release of mercury and its compounds by minimizing and, where feasible, ultimately eliminating global, anthropogenic mercury releases to air, water and land.

The objective of this waste partnership is:

- Minimize and, where feasible, eliminate mercury releases to air, water, and land from mercury waste by following a lifecycle management approach.

Part of the overall approach to achieve the objective above is to strengthen the capacity of all countries and stakeholders while focusing on the needs of developing countries and countries with economies in transition to effectively deal with mercury waste.

[2] Throughout this document "mercury waste" refers to waste consisting of elemental mercury and waste containing or contaminated with mercury

In order to achieve the objective, environmentally sound management of mercury wastes is needed in all aspects of the waste collection, transportation, treatment and disposal practices as well as in the reduction of atmospheric emissions of mercury from incineration and other industrial processes.

Public awareness raising, community engagement and training for workers exposed to mercury need to be included to reduce mercury exposures and releases. Implementation of effective mercury waste treatment methods will be included as well.

III. Priority Actions

The partnership area has the following priority actions:

a. Identify and disseminate environmentally sound collection, transportation, treatment and disposal techniques/practices for different kinds of mercury wastes to reduce mercury releases from waste by following a lifecycle management approach, including:
    - Identify and characterize mercury contained in waste streams by taking into account contamination level and waste volumes.
    - Facilitate activities contributing to the finalization of "Draft Basel Convention Technical Guidelines for the Environmentally Sound Management of Waste Consisting of Elemental Mercury and Wastes Containing or Contaminated with Mercury". Ensure coordination between Secretariat of the Basel Convention and its respective subsidiary bodies.
    - Prepare and promote utilization of "Good Practices for Management of Mercury Releases from Waste"
    - Implement national projects on environmentally sound management (ESM) of mercury waste that can be used as case studies/demonstration projects.
    - Ensure cooperation with the other relevant areas of the partnership such as products and supply/storage

b. Assess environmental impacts of current waste management practices and processes, including providing support to countries to assess their national situation (e.g. development of national mercury waste inventories and priority setting) and needs.

c. Promote public awareness of the hazards regarding mercury wastes and their management and support community engagement in the activities of the Waste Management Partnership.

IV. Partner Efforts and Timelines

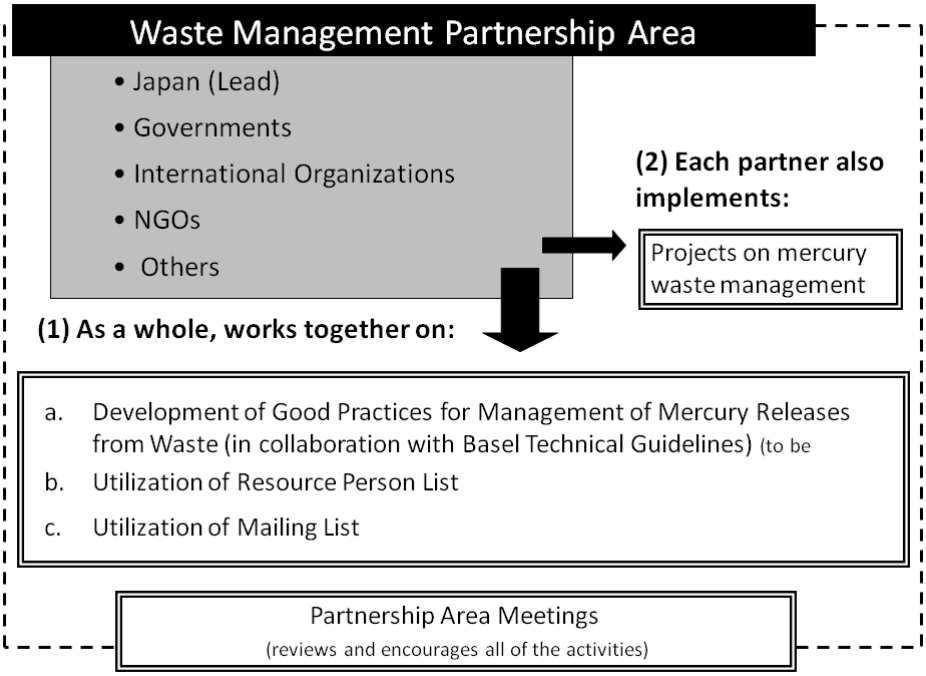
As shown in Figure 1, there are activities under the Waste Management Partnership Area at two levels. First, there are activities being implemented by the Waste Management Partnership Area as a whole, involving all Partners, which include the following:

a. Drafting of "Good Practices for Management of Mercury Releases from Waste"

b. Utilization of Resource Person List on mercury waste management

c. Utilization of mailing list among Partners and other interested parties

Second, there are projects on mercury waste management implemented by each Partner. In order to review and encourage all of these activities, the Partnership Area Meetings are organized periodically.



Note: Activities regarding development of the Good Practices for Management of Mercury Releases from Waste are currently suspended. Details will be determined upon the development of the Basel Technical Guidelines and upon consultations with the relevant groups.

Figure 1. Activities of the Waste Management Partnership

The partners are conducting various projects with regard to mercury waste management. Here, the projects have been classified by the type of wastes they deal with, as shown in the box below.[3]

Types of wastes addressed by the projects[4]:

1. Multiple Types of Mercury Wastes
2. Waste Products Containing Mercury (e.g. batteries, fluorescent lamps)
3. Healthcare Wastes (e.g. thermometers)
4. Mine Tailings [5]
5. Sites Contaminated with Mercury Wastes

For each project, (1) the priority action addressed by the project and (2) the stage of waste management addressed by the project are indicated. This information has been provided by the project contact persons. The list of priority actions and stages of waste management that the projects address are shown in the box below[6].

[3] Among the projects that deal with the same types of wastes, the projects that are already completed are listed first, followed by those that are on-going and under planning. Among the projects that deal with the same type of wastes and are at the same phase of implementation (i.e. completed, on-going or under planning), the projects that are implemented at the multilateral level are listed first, followed by those that are implemented at the bilateral, then the national, and then the local level.

[4] These types of wastes have been categorized based on the content of partner efforts submitted by Partners.

[5] Tailings are residue of raw material or waste separated out during the processing of crops or mineral ores (Reference: US EPA (1997) Terms of Environment: Glossary, Abbreviations and Acronyms. http://www.epa.gov/OCEPAterms/)

[6] This categorization has been conducted in response to the suggestions made in the Partnership Advisory Group Meeting held in March to April 2009 and in the Second Waste Management Partnership Area Meeting held in Tokyo, March 2010.

(1) Priority action addressed by the project

a.1. Identification and characterization of mercury in waste streams

a.2. Contribution to the finalization of Draft Basel Convention Technical Guidelines for the Environmentally Sound Management of Waste Consisting of Elemental Mercury and Wastes Containing or Contaminated with Mercury"

a.3. Implementation of national projects on ESM of mercury waste as case studies/demonstration projects

b. Assessment of environmental impact of waste management practices (including development of mercury emission inventories)

c. Promotion of awareness and education regarding mercury waste

(2) The stage of waste management addressed by the project

a. Development of policy framework

b. Reduction of mercury wastes (e.g. substitution of mercury-containing products)

c. Collection/separation of mercury wastes

d. Temporary or short-term storage pending disposal of collected mercury-containing products or wastes

e. Recovery of mercury from mercury-containing products and byproducts

f. Removal of mercury in flue gas and wastewater from waste management activities

g. Stabilization and solidification of mercury wastes

h. Final disposal of mercury wastes[7]

i. Other

A. Activities Implemented by the Waste Management Partnership Area as a whole

Followings are on-going activities that are being implemented under the initiative of the Lead and the Ministry of the Environment, Japan and through consultation with the Partners.

Type of waste	Multiple Types of Mercury Wastes
Phase of project	☐ Completed ☒ On-going ☐ Under planning
Level of intervention	☒ Multilateral ☐ Bilateral ☐ National ☐ Local
Name of Project	**Development of a document titled "Good Practices for Management of Mercury Releases from Waste" (formerly called "Draft BAT/BEP Guidance on Reduction of Mercury Releases from Waste Management")[8]**
Contribution to Partnership Area objectives	(1) Priority action addressed by the project ☒ a.1. Identification and characterization of mercury in waste streams ☒ a.2. Contribution to the finalization of "Draft Basel Convention Updated Technical Guidelines for the Environmentally Sound Management of Waste Consisting of Elemental Mercury and Wastes Containing or Contaminated with Mercury and Wastes Containing or Contaminated with Mercury"

[7] Final disposal of mercury waste may include options such as permanent storage of waste elemental mercury recovered from mercury waste or disposal of stabilized mercury waste in specially engineered landfill sites. Its definition may be discussed in the process of the intergovernmental negotiating committee to prepare a global legally binding instrument on mercury (INC).

[8] After consultation with the UNEP Chemicals and the Secretariat of the Basel Convention, the title of this document has been changed due to considerations to the Intergovernmental Negotiating Committee (INC) to prepare a globally legally binding instrument on mercury (started from June 2010). Given that the BAT/BEP can be discussed at the INC under its own context, the expression "BAT/BEP" should be deleted from the title of this document to avoid confusion between the INC process and the UNEP Global Partnership.

	☒ a.3. Implementation of national projects on ESM of mercury waste as case studies/demonstration projects ☒ b. Assessment of environmental impact of waste ,management practices (including development of mercury emission inventories) ☒ c. Promotion of awareness and education regarding mercury waste (2) The stage of waste management addressed by the project ☒ a. Development of policy framework ☒ b. Reduction of mercury wastes (e.g. substitution of mercury-containing products) ☒ c. Collection/separation of mercury wastes ☒ d. Temporary or short-term storage of collected mercury-containing products ☒ e. Recovery of mercury from mercury-containing products and byproducts ☒ f. Removal of mercury in flue gas and wastewater from waste management activities ☒ g. Stabilization and solidification of mercury wastes ☒ h. Final disposal of mercury wastes ☒ i. Other (please specify: remediation of contaminated sites)
Implementing agency, partners	UNEP Global Mercury Partnership, Japan (Ministry of the Environment) and other partners
Aim of the project	To provide information that supports the implementation of good practices contributing to the reduction of mercury releases from waste by following a lifecycle management approach. The document will be composed mainly of practical cases that are provided by Partners and that realise the principles of "Draft Basel Convention Updated Technical Guidelines for the Environmentally Sound Management of Waste Consisting of Elemental Mercury and Wastes containing or Contaminated with Mercury[9]" (to be determined).
Activities	The Lead will compile information about good practices to manage mercury releases from waste based on information and comments provided by Partners and relevant parties, taking into account consistency with "the Basel Convention Updated Technical Guidelines for the Environmentally Sound Management of Waste Consisting of Elemental Mercury and Wastes Containing or Contaminated with Mercury" (to be determined).
Achievements up to the present	The preliminary draft had been developed and was discussed at the Mercury Waste Management Partnership Area meeting in March 2010 (at that time called BAT/BEP Guidance). The first draft was presented as non-paper at INC 2 in January 2011. The document is expected to be updated as appropriate, based upon further inputs from Partners and for being more useful to the readers.
Budget	Funded by the Government of Japan
Project starting/ completion date	Started in June 2008; The first version was provided to INC 2 in January 2011. Completion date: to be determined
Contact information	Ministry of the Environment, Japan: Tel +81-3-5521-8260
Last updated on	15/12/2015

Other Activities

Utilization of Resource Person List on Mercury Waste Management

A Resource Person List on Mercury Waste Management has been prepared with the objectives to (1) provide a list of resource persons that the partners could contact when they wish to obtain advice from

[9] "Draft Basel Convention Updated Technical Guidelines for the Environmentally Sound Management of Waste Consisting of Elemental Mercury and Wastes Containing or Contaminated with Mercury" and this document will work in a mutually complementary manner, avoiding overlaps in roles; the former will focus on "the principles of environmentally sound management of mercury waste" whereas the latter will provide information about "practical cases" that would assist readers to implement an important part of the "Draft Basel Convention Technical Guidelines for the Environmentally Sound Management of Waste Consisting of Elemental Mercury and Wastes Containing or Contaminated with Mercury".

the technical standpoint in formulating or implementing projects to reduce mercury releases from waste management and (2) to provide a list of resource persons who could provide advice on the activities of the Waste Management Partnership Area such as organizing face-to-face meetings or drafting/revising "Good Practices for Management of Mercury Releases from Waste".

25 nominations have been received for the first version of the list; all of which have been approved by the Partners to be Resource Person. The completed list has been shared among the Partners through Waste Management Area's mailing list and its summarized version has been made public through the UNEP Chemicals website. The list was revised in March 2012 for the first time, and in September 2014 for the second time. Revised list will be circulated with Partners and other stakeholders later in 2014.

Utilization of Mailing List among Partners and Other Interested Parties

A mailing list is created under the Waste Management Partnership Area with the objectives to facilitate communication between the Partners and the Lead and also among the Partners and potential Partners. Those currently participating in the mailing list include representatives of the Partner organizations of the Waste Management Partnership Area, participants of the Waste Management Partnership Area Meetings and others interested in joining the mailing list and are nominated by someone of the above.

The mailing list is currently used principally for disseminating information from the Lead to the Partners and relevant parties regarding activities under the Waste Management Partnership such as those regarding "Good Practices for Management of Mercury Releases from Waste", the Resource Person List or the Business Plan. In the future, it is anticipated that the mailing list would be further utilized by the Partners and other relevant parties for purposes such as request for information regarding mercury waste management activities, reporting of activities, notification of events, etc.

B. Projects Implemented by Each Partner

1. Projects Implemented by Each Partner at a Glance (On-going & Under planning)

(Detailed project information is followed by this table)

Type of waste addressed	Name of project	Phase of project	Level of inter-vention	Implementing agencies	pp.
a. Multiple Types of Mercury Wastes	Implementation of Basel Convention Technical Guidelines on Certain Wastes (other than "Draft Updated Basel Convention Technical Guidelines for the Environmentally Sound Management of Wastes Consisting of, Containing or Contaminated with Mercury or Mercury Compounds")	On-going	National	- Parties of the Basel Convention	10

Type of waste addressed	Name of project	Phase of project	Level of inter-vention	Implementing agencies	pp.
	Sub-regional technical assistance project on mercury wastes	Ongoing	Multi-lateral	- Secretariat of the Basel, Rotterdam and Stockholm conventions - Basel Convention Coordinating Centre in Uruguay - Three or four countries will be selected in Latin America	11
	Environmental Sound Management of Mercury Containing Wastes	Under Planning	National	- National bodies of Syria	12
	Mercury Management Toolkit (including development of mercury emission inventories)	On-going	Local	- Global Environment Facility - Society of Environmental Toxicology and Chemistry - UNEP-DTIE	13
	Conduct a National Awareness and Education programs on Mercury Waste and set up an ESM system for Mercury Waste in Liberia	Under Planning	Local	- Pollution Control Association of Liberia (POCAL)	13
b. Waste Products Contain-ing Mercury	Mercury Dental Amalgam Collection and Recovery in Massachusetts, USA	On-going	Local	- Commonwealth of Massachusetts	14
	Fluorescent lamp compaction plant	Under-planning	National	- Zero Pollution Alliance - Ecologic, S.A., Panama's Health Secretary - UK Government - Waste Management Area - Supply & Storage Area	15
	Specially engineered landfill for hazardous waste's final disposal (1st. Phase) Pilot Project	Under-planning	Local	- Ecologic, S.A., Panama - Hormigon Express - Health Ministry, Panama	16