

# **UNEP Global Mercury Partnership**

## **Business Plan of the Mercury Waste Management Partnership Area - 13 March 2009 -**

---

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.

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.

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.

## **I. Summary of the Issue**

Products containing mercury are not readily identifiable; they enter the waste stream along with other municipal, medical, and industrial waste. Therefore, the mercury concentrations in most waste streams are directly related to the amount of mercury in the products.

This partnership aims to support the objectives of Overall Goal of Partnership; minimize and, where feasible, eliminate unintentional mercury releases to air, water, and land from waste containing mercury and mercury compounds by following a lifecycle management approach. The partnership area puts priorities in such actions:

- Identify environmentally sound collection, disposal and treatment techniques for mercury waste following a lifecycle management approach, including:
- Assess environmental impacts of current waste management practices and processes, including providing support to countries to assess their national situation and needs.
- Promote awareness and education of issues related to mercury waste.

## **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 unintentional mercury releases to air, water, and land from mercury waste<sup>1</sup> by following a lifecycle management approach.

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

In order to achieve the objective, sound management of mercury-containing wastes should be implemented in the treatment process; reduction of atmospheric emissions of mercury from incineration, environmentally sound disposal of mercury waste including landfilling or recycling and recover operations. Awareness raising and training to increase knowledge and 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 environmentally sound collection, disposal and treatment techniques for mercury waste 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 the Draft Basel Convention Guidelines on the Environmentally Sound Management (ESM) of Mercury Waste. Ensure coordination between Secretariat of the Basel Convention and its respective subsidiary bodies.
  - Implement national projects on ESM of mercury waste that can be used as case studies/demonstration projects.

---

<sup>1</sup> Throughout this document “mercury waste” refers to obsolete mercury, waste containing or contaminated with mercury

- b. Assess environmental impacts of current waste management practices and processes, including providing support to countries to assess their national situation and needs.
- c. Promote awareness and education regarding mercury waste.

#### **IV. Partner Efforts and Timelines**

This is a proposed new partnership area. There are currently no activities directly implemented through the partnership area.

National governments, international organization and NGO are conducting and will plan various activities related to the mercury waste management. In the future, this section might be separated in accordance with the players.

On-going current efforts on mercury waste management:

1. Several Basel Convention Technical Guidelines of relevance have been developed and adopted by the Parties to the Basel Convention, namely: the technical guidelines on environmentally sound management of household waste; technical guidelines on the incineration on land; and technical guidelines on specially engineered landfills.
2. Cooperation on mercury waste between UNEP Chemicals and the Basel Convention is on-going. The eighth Conference of the Parties to the Basel Convention included a new Strategic Plan focus area on mercury wastes in the 2007-08 biennium. Currently there are two main work area components being conducted by the Basel Convention Secretariat, in cooperation with UNEP Chemicals.
  - **Component I:** draft of the technical guidelines on the Environmentally Sound Management (ESM) of mercury wastes;
  - **Component II:** a capacity-building and technical assistance programme to reduce risk and prevent pollution from mercury.
    - In order to contribute to the finalization of the draft guidelines on the ESM of mercury waste, country projects in Asia, Africa, and Latin America are under way. The projects which will test the applicability and usefulness of said guidelines will be funded by UNEP Chemicals and the SBC, respectively, in parallel. Proposed activities include: prioritization of mercury waste sources from the mercury inventory results; planning for national mercury waste management; application of the guidelines through training and awareness raising; human and environmental sampling analysis; and an evaluation of the guidelines by key stakeholders.
3. The World Health Organization Department of Health Security and Environment is currently finalising a revised edition of the “Health Care Waste Management Manual”. This guidance document describes the elements on the ESM of waste from health care facilities, including wastes containing mercury.
4. A UNDP-GEF project on “Demonstrating and promoting BAT/BEP for reducing health-care waste to avoid environmental releases of dioxins and mercury” is also underway in 8 countries (Argentina, Philippines, Lebanon, Latvia, Vietnam, India, Senegal, and Tanzania). This project is aimed at promoting environmentally sound technologies, demonstrating alternatives, and implementing waste management programs related to dioxin and mercury in the health sector.

5. Going beyond waste management, cost benefit analysis is being addressed in a UNEP Chemicals' project on "Technical/chemical and economic assessment of mercury-containing and Hg-contaminated tailings from the mining sector in developing countries" together with the governments of Chile and Ghana. The project aims for a feasibility study on the options that the mercury or the precious metal content in tailings – as a sellable product – will pay for the environmentally sound remediation of such sites. Period is 1/12/2008-31/12/2009; Grant is USD 200,000.
6. Each country has related projects that are underway or have been completed. Some countries and organizations that have given the examples cited in this paper (below) responded to a call for the information through the partnership.

## **MULTILATERAL**

### **JICA Training Course Hazardous Waste Management and Appropriate Disposal for Asia:**

**Aim of the project:** To assist officials of national and local governments in Asian countries enhancing capacities for planning hazardous waste management policies suitable to their conditions through providing them with basic knowledge and Japan's experiences in hazardous waste management

**Partners:** Asian countries, Japan International Cooperation Agency, Japan Environmental Sanitation Center

**Projected Completion Dates:** 2009

**Phase or Stage of Project:** This training course has been provided once every year since 2007.

**Contact:** Japan Environmental Sanitation Center +81-44-288-4895

### **Development of BAT/BEP technical guidance for implementation of important part of Basel Guideline for sound management of waste containing mercury**

**Aim of the project:** To review available information on existing Best Available Techniques (BAT) / Best Environmental Practices (BEP) for relevant sources, and to develop specific mercury guidance as technical guidance for implementation of several parts of Basel Guideline.

**Partners:** Japan and others (tbd)

**Projected Completion Dates:** 2010

**Phase or Stage of Project:** Draft outline is developed and discussed at the Mercury Waste Management Partnership Area meeting in March 2009.

**Contact:** Ministry of the Environment, Japan (and private consultant) +81-3-5521-8260

## **BILATERAL**

### **Arkhangelsk**

#### **Bilateral project between Arkhangelsk and Norway.**

**Aim of the project:** To reduce generation of hazardous waste containing mercury. Particular attention is given to fluorescent tubes and energy saving light bulbs as these contain up to ten times more mercury than in Europe. Collection of hazardous waste, particularly from the wood processing industry, is also addressed.

**Partners:** County Administration of Arkhangelsk, The Norwegian Pollution Control Authority and The County Governor of Hordaland in Norway.

**Projected Completion Dates:** 2008

**Cost:** Approx. 50,000 USD

**Phase or stage of project:** Three workshops are carried out, two in Arkhangelsk and one in Norway.

**Contact:** Mr. Håkon Oen, Norwegian Pollution Control Authority, Tel: + 47 22573400

### **Russia**

### **Multilateral projects between Russia, Denmark, USA and Norway.**

**Aim of the project: To reduce mercury releases from waste in Russia.** These projects are conducted under ACAP (Arctic Contaminants Action Program). The projects cover: Handling of hazardous waste containing mercury, installing carbon filter/mercury cleaning at a coal plant and Partnership for the phase out of mercury in chlor-alkali industry.

**Dates of completion:** The projects are running from 1999 to 2008 with economic support from Norway, Denmark and USA.

**Partners:** Norwegian Pollution Control Authority,

**Projected Completion Dates:** 2008

**Cost:** Norwegian funds; Approx. 10,000 USD.

**Phase or stage of projects: TO BE ADDED**

**Contact:** Ms. Bente Sleire, Norwegian Pollution Control Authority, Tel: +47 22573400

### **South Africa**

#### **Bilateral project between South Africa and Norway.**

**Aim of the project:**

To develop a national strategy on reduction of, handling and disposal of hazardous waste

**Partners:** Department of Environmental Affairs and Tourism (DEAT), the Norwegian Pollution Control Authority (SFT)

**Projected Completion Dates:** 2010

**Cost:** Approx. 320,000 USD

**Phase or stage of project:** under planning

**Contact:** Ms. Barbro Thomsen, Norwegian Pollution Control Authority, Tel: + 47 22573400

### **NATIONAL**

#### **Nigeria**

#### **Environmentally Sound Implementation of Healthcare Waste Management Plan in Nigeria.**

Nigeria has carried out an inventory on Healthcare Waste and has developed an Action Plan, Guidelines, and Policy / Bill for healthcare waste management including healthcare wastes containing mercury.

#### **Cross Reference**

Under the mercury in products partnership area, work is underway to address mercury waste resulting from the phase out of mercury in hospitals and health care facilities in selected pilot projects as follows (see details in the Mercury – Containing Products Partnership Area Business Plan).

**China Hospitals Project:** Demonstration programs at two Beijing hospitals to significantly reduce mercury containing products and waste.

**Partners:** China (Beijing), United States, Healthcare Without Harm (HCWH)

**Projected Completion Dates:** September 2007

**Phase or stage of project:** Completed

**Contact:** Shen Yingwa, SEPA, shenyw@crc-sepa.org.cn

**Basel Mercury Waste Capacity Building from Products Partnerships:** Development of a cooperative agreement that will help build capacity and best management practices for addressing mercury waste collected from health care products and other sectors addressing mercury in products.

**Partners:** Product Partnership countries needing assistance with building capacity for managing mercury waste, United States, Basel Convention Secretariat,

**Projected Completion Dates:** Cooperative Agreement – August 2008; Ongoing through 2012.

**Contact:** Vincent Jugault, Vincent.JUGAULT@unep.ch

**Buenos Aires Hospital Project:** Support Healthcare Without Harm's efforts to assist the Buenos Aires City Government to deliver mercury-free training for all city-run hospitals and to complete mercury elimination for two hospitals and fourteen neo-national units. Training of health workers and the procurement of mercury alternative medical devices is underway. UNEP provided technical support in the conduct of the project.

**Partners:** Buenos Aires, United States, Healthcare without Harm, UNEP

**Projected Completion Dates:** January 2008

**Costs:** Project was funded from the UNEP Mercury Trust Fund at \$95,000 USD.

**Phase or stage of project:** Nearing completion of preliminary report

**Contact:** Josh Karliner, HCHW, josh@hcwh.org

**Chile Hospitals Assessment Project:** Develop and implement hospitals assessment and reduction/elimination of mercury-containing products Chile.

**Partners:** Chile, Health Care without Harm, United States, Basel Convention Secretariat

**Projected Completions Dates:** On-site visit – TBD; Project completion – TBD

**Phase or stage of project:** Project under development – will be similar in scope to Costa Rica Hospitals Assignment

**Contact:** Thomas Groeneveld, U.S. EPA, groeneveld.thomas@epa.gov

**Costa Rica Hospitals Assessment Project:** Develop and implement hospitals assessment and reduction/elimination of mercury-containing products in Hospital Nacional de Ninos in San Jose, including an pilot project with the Basel Convention Secretariat to reduce and manage mercury waste in hospitals in Costa Rica.

**Partners:** Costa Rica, United States, Basel Convention Secretariat

**Projected Completions Dates:** On-site visit – December 2007; Project completion – June 2009

**Phase or stage of project:** On-site visit and preliminary report completed; implementation phase initiated

**Contact:** Thomas Groeneveld, U.S. EPA, groeneveld.thomas@epa.gov

**Mexico Healthcare Project:** Develop a healthcare facility pilot project in Mexico to establish a template for mercury reduction initiatives in other healthcare facilities. Expected to begin in 2007.

**Partners:** Mexico, United States, Healthcare without Harm, North American Commission for Environmental Cooperation (NACEC)

**Projected Completion Date:** January 2008

**Phase or stage of project:** Project completed December 2007; NACEC-funded project to communicate with most other hospitals in Mexico is approved for 2008

**Contact:** Luke Trip, Program Manager, NACEC, ltrip@cec.org and Alfonso Flores Ramirez, CENICA-INE-SEMARNAT, alfonso.flores@semarnat.gob.mx

**Regional Workshops on Elimination of Mercury in Health Care:** Organize four regional workshops in South East Asia, Latin America, Southern Africa and South Asia to promote alternatives to mercury in the health care sector in developing countries.

**Partners:** Health Care Without Harm and UNEP with sponsorship and/or participation in each workshop from national ministries of health and environment, WHO and health care professionals associations.

**Projected Completion Dates:** December 2008.

**Phase or Stage of project:** Three of four workshops completed (South East Asia, Latin America, Southern Africa) with the fourth (South Asia) to take place in December 2008. All three events achieved their stated objectives and have resulted in significant, tangible movement toward the phase-out of mercury in the health care sector in host countries and broader regions.

**Contact:** Josh Karliner, International Team Coordinator, Health Care Without Harm, [josh@hcwh.org](mailto:josh@hcwh.org)

Under the ASGM partnership area, UNIDO conducts the Global Mercury Project (GMP) which began in August 2002. The GMP will demonstrate ways of overcoming barriers to the adoption of best practices and pollution prevention measures that limit the mercury contamination of international waters from artisanal and small-scale gold mining. Appropriate waste treatment will contribute to reduce the wastewater which contains mercury. (see details in Business plan of the Artisanal and Small Scale Gold Mining (ASGM) Partnership Area).

With the support of the Government of Switzerland and USA (EPA), UNITAR (in cooperation with UNEP Chemicals and UNEP GRID-Arendal) is working with the Government of Kyrgyzstan to assist with assessing and taking action regarding the world's last remaining known primary mercury mine. The project, which is advised by an international group of advisors and a national steering committee (to be formed), starts in 2008 and aims to regularly report progress under the supply partnership.

US (EPA) conduct related projects as follows.

- Partnership with Russian Association of Chlorine Industry to implement a project on environmentally-safe management of mercury waste, as described in the chlor-alkali business plan.
- Activities with Arctic Contaminants Action Program of the Arctic Council to develop an Integrated Hazardous Waste Management Strategy. Regulations for safe storage of mercury surplus and mercury waste (e.g. pesticides) are being developed under this program.
- A project in Kazakhstan titled: "Bio-remediation monitoring of mercury contamination at Pavlodar Chemical plant."

## **V. Opportunities:**

This section addresses areas where the partnership has the potential to become active. Since the partnership is just starting, there are not yet ongoing activities but the following opportunities have been identified so far. New activities will be included as they are being identified.

Priority action a): Identify environmentally sound collection, disposal and treatment techniques for mercury waste following a lifecycle management approach.

- Develop a training manual for countries to apply the Draft Basel Convention Technical Guidelines on Environmentally Sound Management of Mercury Waste, including sector specific guidance.
- Review available information on existing Best Available Techniques (BAT) / Best Environmental Practices (BEP) for mercury waste management. In doing so, cooperate with other partnership areas.
- Gather and share existing information on good practices (both institutional and technical) starting initially with the segregation of waste containing mercury from others and sound recovery of mercury from waste.
- Target pilot projects on mercury waste management in cooperation with other institutions or organizations (e.g., the Basel Convention). Such projects may include waste collection and transport, separation, segregation or recovery technologies and may address air emissions, landfill design and operation including evaporation and seepage water, and use of appropriate stabilization/solidification technologies.

Priority action b): Assess environmental impacts of current waste management practices and processes, including providing support to countries to assess their national situation, interests and needs.

- Enhance information/knowledge, including improving release inventories (including the Mercury Toolkit , EMEP Guidebook and national/regional Pollutant Release and Transfer Registers) with an emphasis on mercury waste streams.
- Assess the importance of mercury waste in the national mercury inventories and make suggestions for the improvement of the UNEP Mercury Toolkit.
- Promote safe handling procedures for collection, transportation and management for the segregated mercury wastes and waste handling devices.

Priority action c): Promote awareness and education on mercury waste:.

- Develop and disseminate educational materials including practical and simple advice on steps to deal with current mercury waste issues of concern (*e.g.*, what to do with discarded mercury fever thermometers, sound temporary storage and safeguarding solutions).

## **VI. Evaluation**

The partnership areas will report biennially to UNEP in accordance with the UNEP reporting format<sup>2</sup>. Reporting will include monitoring performance (tracking partnership activities and partner contributions) as well as assessing effectiveness (measuring the impact of partnership activities on target beneficiaries).

## **VII. Resource Mobilization**

Partners are encouraged to contribute financially and also to offer in-kind assistance.

Partners can develop specific initiatives, work with non-partners, or pursue projects consistent with the partnership objectives. It is hoped that the UNEP Global Mercury Partnership will serve as a mechanism to consolidate and leverage funding for large, strategic projects.

Partners are encouraged to apply for funding to relevant funders and regional organizations. Developing countries and countries with economies in transition can submit requests for funding to UNEP under the UNEP Mercury Small Grants Program (*see* [www.chem.unep.ch/mercury/Overview-&-priorities.htm](http://www.chem.unep.ch/mercury/Overview-&-priorities.htm)). UNEP and other partner implementing agencies stand ready to assist countries to develop proposals addressing mercury issues under the SAICM Quick Start Programme (*see* [www.chem.unep.ch/saicm/qsp.htm](http://www.chem.unep.ch/saicm/qsp.htm)).

## **VIII. Business Planning Process**

Business planning will take place annually for the partnership area. Business planning will be undertaken in close collaboration with the mercury in products partnership area.

The process in developing and reviewing business plans will be outlined in this section. Partnerships will take stock of efforts and test direction and productivity in moving forward and will adjust planning accordingly.

---

<sup>2</sup> UNEP will develop a systematic reporting format and timeline for the partnership areas to follow.

In accordance with Section 4 of the Overarching Framework for the UNEP Global Mercury Partnership, the business plan will be periodically reviewed and updated to reflect progress in implementation and changing circumstances. The arrangements for Administrative and Management Support are set out in Table 2.

<b>Table 2: Administration and Management Support</b> (will vary across the Partnerships)		<b>Source of Support</b>
Partnership Lead <sup>3</sup>	<ul style="list-style-type: none"> <li>▪ Facilitation and support of the partnership.</li> </ul>	Japan ( Prof. Dr. TANAKA)
Organization Point of Contact	<ul style="list-style-type: none"> <li>• Preparing Business Plan.</li> <li>• Preparing for meetings.</li> <li>• Logging meeting notes, tracking action items.</li> <li>• Collaborating with partners to strategically link to overall partnership goals and objectives.</li> </ul>	Japan, Ministry of the Environment
UNEP Secretariat Support	<ul style="list-style-type: none"> <li>• Managing the clearinghouse/website.</li> <li>• Taking in funding from multiple sources to fund projects.</li> <li>• Developing activity proposals in collaboration with partners.</li> <li>• Assisting the lead in following up activities by partners.</li> <li>• Other tasks as requested.</li> </ul>	UNEP Chemicals
Face to face meetings	<p>Estimated one per year.</p> <p>All attempts will be made to host face to face meetings of the partnerships in the most cost effective way (e.g. back-to-back with other related meetings and have the ability to call in).</p>	<p>Japan, Ministry of the Environment hosts the meeting in the beginning of year ( venue: tbd)</p> <p>UNEP will support some limited travel of developing countries/NGOs in face to face meetings, rest is in-kind support from partners for their own travel.</p>
Teleconferences	In case of necessity	Japan, Ministry of the Environment

## **IX. Linkages**

- Artisanal and small scale gold mining
- Reductions from the Chlor-Alkali Sector
- Reduction of Mercury Release from Coal Combustion
- Mercury containing products
- Others (e.g. supply, longer-term storage)

**X. Potential Partners (to be confirmed)**

The partnership is open for intergovernmental organizations, governments, and non-governmental organizations. For update on partners, please visit the Webpage of UNEP Mercury Programme.