

UNEP Global Mercury Partnership

Business Plan (October 2011) Mercury supply and storage partnership area

This document describes the business plan for the ‘Mercury supply and storage partnership area’ within the United Nations Environment Programme (UNEP) Global Mercury Partnership. This business plan is an updated version of the UNEP proposed business plan previously drafted in consultation with stakeholders during the first meeting of the mercury Ad hoc Open-ended Working Group and the Meeting of Partners that took place from 1-3 April 2008, and publicly through the UNEP mercury web-page.

The purpose of the business plan is to provide a framework for developing and implementing mercury storage/disposal and supply related activities and projects. The business plan is to serve as a resource for providing a common, cohesive structure for activities related to the environmentally sound long term storage or disposal of surplus quantities of mercury, and to future supply related activities.¹

The business plan recognizes that mercury supply, trade, environmentally sound short and long term storage or disposal are priority areas for the Mercury Intergovernmental Negotiating Committee (INC) deliberations to prepare a legally binding instrument on mercury. Accordingly, the business plan concurrently targets activities for 1) reducing mercury supply, and 2) the environmentally sound storage or disposal of surplus mercury. This plan may also help to inform the INC process, and supports potential mechanisms in the instrument to reduce the global supply and trade of mercury .

At the March 31-April 2, 2009 UNEP Global Mercury Partnership Advisory Group meeting, the Zero Mercury Working Group² was identified as the interim lead for this proposed partnership area. The partnership is open for government and stakeholder participation. We welcome financial assistance or a government lead or co-lead to help facilitate activities of the partnership.

¹ For the purposes of this business plan, the terms “storage” and “sequestration” are used interchangeably, and refer to the safe long-term management of mercury so that it is not introduced or reintroduced into commerce. The use of the term “storage” is not intended to signify a particular type of management for this mercury.

² The Zero Mercury Working Group is a global coalition of more than 100 NGOs from 47 different countries that *strives for zero supply, demand, and emissions of mercury from all anthropogenic sources, with the goal of reducing mercury in the global environment to a minimum*. For more information, see: www.zeromercury.org.

I. Summary of the Issue

- In order to effectively reduce the quantities of mercury circulating in the atmosphere and biosphere, it is widely agreed that there is a need to reduce the supply of, and demand for, mercury worldwide.
- Reduction of the global mercury supply is an important way of encouraging equivalent or greater reductions in mercury demand, particularly for uses where regulatory strategies for reducing demand may have limited effectiveness, such as artisanal and small-scale gold mining.
- As part of a larger regulatory strategy to reduce the amount of mercury available to the biosphere, a number of countries or regions have taken steps domestically or regionally to reduce the mercury supply:
 - The European Union has agreed to a ban on mercury exports and to a storage obligation for surplus mercury from major sources beginning in 2011, and is now in the process of preparing detailed legislation on safe storage requirements.
 - The United States Government stores 100% of its federal mercury stocks (about 5600 tons) in order to keep it from the marketplace, the U.S. Congress enacted legislation prohibiting the export of non-federal mercury beginning in 2013, and by the same date, the US Department of Energy will provide storage capacity for this non-federal mercury.
 - Sweden, Norway and Denmark have banned the export of elemental mercury, among other restrictions on mercury.
 - Assessment reports of excess mercury supply in Asia Pacific, in Latin America and the Caribbean, in Eastern Europe and Central Asia are available; these assessment reports describe the projected quantities and sources of excess mercury supply in the respective regions (2010-2050) and the required mercury storage capacities.³
- Mercury is an element that cannot be destroyed nor converted into another substance. Domestic and global policies designed to decrease the production, use, import, and export of mercury must be accompanied by access to viable, environmentally sound and secure short and long term permanent storage or disposal for mercury stockpiles.

Sources of Mercury Supply

- Primary Mercury: Mercury generated from mining operations where mercury production is the principal objective. Over the last several decades, primary mercury mining for export was conducted by a small number of nations (Spain, Slovenia, Kyrgyzstan and Algeria), and by China, which to date, has mostly provided for its own domestic market. The only large-scale mines that are currently active are in Kyrgyzstan and China, with only Kyrgyzstan reportedly involved in commercial sales outside of its border. Primary mercury mining is the least preferred source of mercury because it adds new and unnecessary quantities to the global mercury reservoir and the activity itself releases significant quantities of mercury into the environment.
- By-product Mercury: Mercury generated as a by-product of certain non-mercury mining and smelting activities. The extent of byproduct generation at a given facility depends upon the mercury concentration in the ore and the nature of pollution control activities at the facility, otherwise it would be emitted to the atmosphere. Additional pollution control requirements could increase the quantity of byproduct mercury generated globally.
- Secondary Mercury: Mercury is generated from the recycling or reprocessing of wastes (i.e., remediation of mine tailings) and products, particularly in the developed world. This is a growing source of mercury in response to environmental regulation designed to prevent mercury releases during waste management.
- Chlor-alkali Mercury: Large quantities of mercury can become available when mercury cell chlor-alkali plants close or convert to non-mercury processes (i.e., membrane technology). Storing mercury from closing or converting chlor-alkali facilities, can be a very cost effective way to reduce the global mercury supply because large quantities are already aggregated at one location.

³ The reports are available at http://www.chem.unep.ch/mercury/storage/main_page.htm.

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 supply and storage partnership area will contribute to the following objective, consistent with the priorities set out in paragraph 19 of GC 24/3: Minimization and where feasible, elimination of mercury supply considering a hierarchy of sources, and the retirement of mercury from the market to environmentally sound management.

Specifically, the supply and storage partnership area will aim to reduce the global supply of mercury by 50% by 2013, when compared to the supply available in 2005 as documented in the most recent UNEP trade report. According to the trade report (UNEP/GC/24/INF/17/Appendix 1 – November 2006), the global mercury supply in 2005 was 3,000-3,800 MT. Using the mid-range value of 3,400 MT, and recognizing the EU and USA export bans are already projected to reduce the annual global mercury supply by about 1,100 MT, this partnership will seek to reduce the global mercury supply by an additional 600 MT by 2013 (See Proposed Priority Actions immediately below).

III. Priority actions of the partnership area

Proposed priority actions are intended to achieve the 50% global supply reduction goal, and contribute to a better understanding of storage needs. The Partnership will seek to achieve a 600 MT annual global mercury supply reduction by 2013, and obtain additional information on storage needs, through the following actions:

- Working with partners, governments and other interested parties to reduce or eliminate the production and export of mercury from large scale primary mining;
- Working with the relevant industry sectors, governments, and other interested parties to determine how much mercury will become available from closed or converting chlor-alkali facilities; and the quantity of byproduct mercury generated from non-ferrous metal processing and oil/gas production;
- Developing industry sector plans for the storage of mercury from chlor-alkali plants, non-ferrous metal processing, and oil/gas production;
- Assessing and facilitating availability of options and technologies for storing or disposing of excess mercury supply from other sources; and
- Facilitating the implementation of export ban legislation in additional countries or regions.

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IV. Partner efforts and timelines

The Kyrgyz Republic Mercury Mining Phase Out Project

- The Government of the Kyrgyz Republic operates the last remaining primary mercury mine known to export mercury. The mine is located in Khaidarkan in the Ferghana Valley. After more than 70 years of primary mercury mining and the lack of technical and environmental measures, a number of mercury-contaminated spots have resulted, which are now the sources of mercury emissions to the global and local environment. Officially reported emissions into the atmospheric air from the Khaidarkan mine amount to 2,700 kilograms of mercury a year.

- In the coming decade (2011-2020), the Khaidarkan mine could produce more than 1,500,000 kilograms of mercury that will eventually enter the global ecosystem. The continued introduction of “new” mercury from the Khaidarkan mine – which adds to the already significant international supply of mercury currently being traded – further highlights the need for international action to support alternatives to mercury mining in Kyrgyzstan.
- Action to assist the Kyrgyz Republic to close the Khaidarkan mine has been recognized as a priority by the international community. The Kyrgyz Republic Mercury Mining Phase Out Project Partnership led by UNEP has provided a vehicle for the coordination of efforts between the Kyrgyz Government, international partners and relevant national and local players to move forward in phasing out of the state-owned mercury mining sector and replacing it with sustainable and socially responsible alternative economic activities. So far, the Governments of Switzerland, Norway and the United States have respectively played active roles in this partnership and made some initial financial contributions. However, the region of the country where the mine is situated faces long-term economic and environmental challenges that make the possible closure of the mine a challenging issue.
- The major political change in the Kyrgyz Republic in April 2010 and the socio-economic fragility of the southern Kyrgyz Republic that experienced inter-ethnic violence in 2010 has been a major driver for the Kyrgyz Government’s very cautious approach towards phasing out of its national mercury industry and mercury mine closure without offering alternative income source and opportunity. Currently, a feasibility study is underway, which, if funded, would involve collaboration with the Kyrgyz government on a) economic alternatives to allow 'soft' closure of the mine and b) priority remediation action.
- Altogether, the goal for the combined efforts of the international donors and the state authorities shall be to render mercury mining redundant in the future. Once international funding is secured, it would enable conditions which could pave the way for:
 1. gradual socially responsible phasing out of primary mercury production,
 2. determining the technical feasibility of transition to alternative mining activities,
 3. attracting additional investment,
 4. facilitating environmental and health risk reduction measures, and
 5. improving understanding of the mercury-related hazards both among the local community and policy makers in the national authorities of Kyrgyzstan.

The ongoing small grants program promoting local economic development and diversification and reducing community dependence on mercury mining enterprise will naturally complement this initiative.

Mercury Storage Projects

- UNEP Mercury storage projects, supported by the government of Norway, were implemented in the Asian region, and in the Latin America/Caribbean region. Kick-off meetings sponsored by UNEP and the Zero Mercury Working Group (ZMWG) were held in March (Bangkok, Thailand) and April 2009 (Montevideo, Uruguay) respectively, where reports estimating the quantities of excess mercury expected in these regions through 2050 were reviewed and evaluated.
- As a follow-up, Project Executive committees (Exe-com) were established for these two Regions and were tasked to catalyze regional action. Exe-com members for Asia Pacific are India (Chair), Indonesia, Nepal, Papua New Guinea, Philippines, and Ban Toxics/Zero Mercury Working Group. For the Latin American and Caribbean (LAC) region, Exe-com members are Argentina, Brazil (chair), Chile, Panama, Mexico, Barbados, Dominican Republic, and NGOs, including ACPO- ZMWG, ISDE, Abichlor.
- Furthermore, two options analysis studies for the environmentally sound management of surplus mercury respectively were carried out in the regions. Six meetings were held in the respective regions to further discuss the content and progress of these studies. LAC regional consultation took place in Panama in April 2010, LAC Exe-com meetings were held in Sao Paulo, Brazil in December 2009 and

in Santiago, Chile in October 2010. An Asia Pacific regional consultation was held back to back with the mercury OEWG that took place in Bangkok in October 2009. UNEP has been providing follow-up support to mercury storage activities in these regions.

- The revised options analysis for the Asia-Pacific (A-P) Region was supported by the US Department of State and was completed in November 2010. A review of the report followed and the draft revised report was discussed at a meeting held in Germany in December 2010. This was further discussed at the A-P Exe-com meeting that took place in Surabaya, Indonesia in July 2011. The study has gone through extensive consultation and is now finalized and available at:
http://www.unep.org/hazardoussubstances/Portals/9/Mercury/Documents/supplystorage/Analysis%20of%20options%20for%20the%20environmentally%20sound_EDITED%20CLEAN_May2011.pdf
- The options analysis for the LAC region was also extensively discussed and consulted with the partners. It was finalized in October 2010 and it is now available at:
http://www.unep.org/hazardoussubstances/Portals/9/Mercury/Documents/supplystorage/Final_Draft_LAC%20Hg%20Options_Chile.pdf.
- The Eastern Europe and Central Asia (EECA) area was also identified as potentially needing an options analysis for storage. A preparatory study on the flows of mercury in the region was completed by April 2010 and is available at:
http://www.unep.org/hazardoussubstances/Portals/9/Mercury/Documents/supplystorage/Final_Draft_LAC%20Hg%20Options_Chile.pdf.

“Framework document” to assist decision making on mercury sequestration.

- In 2009, while at the Mercury OEWG 2, it became clear that some governments (mainly countries/regions that have large quantities of excess mercury supply) may need assistance on making decisions with respect to managing excess quantities of mercury. In order to further support sequestration of excess mercury globally, the partnership, with UNEP support, initiated the development of a “Framework document” which would present technical options and guide decision making on mercury sequestration needs. Although still under development, the Framework document will seek to address:
 - Legal and regulatory measures that foster (and not deter) environmentally sound management and sequestration,
 - Informational assistance on options to develop sequestration capacity in certain regions, including considering a “decision tree” of activities, and
 - Private sector sharing in financial responsibility.
- As part of the Framework document, the need to provide clarity on relevant terms used relevant to storage, was identified, since the partnership goal is to sequester surplus quantities of mercury – regardless of whether it is characterized as commodity or waste mercury. Since clarifying such terms would also prove useful to the INC process, UNEP supported the development of this document: “*The Introduction to the Draft Glossary of Terms related to Mercury Storage and Disposal*” (7th draft) is available at:
http://www.unep.org/hazardoussubstances/Portals/9/Mercury/Documents/supplystorage/Intro%20to%20glossary_7th_June2011.doc
 - Important terms with relevance to storage of elemental mercury and to storage and disposal of waste consisting of elemental mercury and waste containing or contaminated with mercury have been identified. These are presented in the format of a “Question and Answer” (Q & A) to provide a basic overview.
 - The document presents general descriptions of important terms, refers to relevant definitions from chemical and waste conventions, notably the Basel Convention, where available and

applicable, provides background information on complex terms and issues and groups synonymous terms.

- This document is for information only. Descriptions and definitions presented for various terms are not intended to pre-empt any discussions or decisions to be undertaken at upcoming mercury Intergovernmental Negotiating Committee sessions. Nevertheless, the document may serve as a basis for starting discussions.

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Regional and National Initiatives

(Please note: We welcome your suggestions on your activities to be listed here.)

- The United States Department of State has launched two projects in Indonesia and Philippines in 2011, with NGOs in the Southeast Asian Region, BaliFokus and Ban Toxics, to develop a national strategic plan for the two countries on mercury storage. The project aims to engage various sectors on developing mercury storage at a national and sub-national level. The project also seeks to generate data on the local costs, requirements, and other social criteria for the successful establishment of mercury storage in the two countries. The areas of focus for the storage project will be the small-scale gold mining sector, healthcare facilities, and the oil and gas industry.

V. Strategies/Opportunities

- Support additional bilateral projects to transition away from primary mercury mining to industries or activities that are more environmentally sound and economically sustainable.
- Encourage the environmentally safe storage/disposal of mercury from major sources, such as but not limited to, decommissioned plants in the chlor-alkali industry and from byproduct mercury generated by the large scale mining industry.
- Encourage development and implementation of national policies which restrict trade in mercury and sequester rather than export mercury in countries with significant mercury exports.
- Support to options analysis/ feasibility studies and follow-up work on mercury sequestration in Asia Pacific and Latin America/Caribbean regions, and initiation of mercury storage projects in other regions such as the EECA.

VI. Performance measurement and reporting

The partnership areas would report biennially to UNEP in accordance with the UNEP reporting format⁴. Reporting will include monitoring performance (tracking partnership activities and partner contributions) as well as assessing effectiveness (measuring supply reductions achieved to the extent possible)

VII. Resource Mobilization

A government is being sought to lead or co-lead this partnership as soon as possible. Partners are encouraged to contribute financially and also to offer in-kind assistance.

⁴ UNEP will develop a systematic reporting format and timeline for the partnership areas to follow.

Partners can develop specific initiatives, work with non-partners, or pursue projects consistent with 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. UNEP and other partner implementing agencies stand ready to assist countries to develop proposals addressing mercury issues under the UNEP Mercury Small Grants Program (*see* www.chem.unep.ch/mercury/Overview-&-priorities.htm) and the SAICM Quick Start Programme (*see* www.chem.unep.ch/saicm/qsp.htm).

VIII. Business Planning Process

Revision of the business plan takes place through electronic consultation among partners.

IX. Partners

This is a list of partners that have signed up on the UNEP website:

Governments

- Switzerland
- United States of America

Intergovernmental Organizations

- United Nations Development Program
- United Nations Institute for Training and Research
- Basel Convention

Non Governmental Organizations

- Centre pour l'Environnement et le Développement RDC
- Grupo Parques Nacionales Panamá / Alianza Contaminación Cero
- International POP's Elimination Network (IPEN)
- Kyrgyz Mining Association
- World Chlorine Council
- ZOI Network
- Zero Mercury Working Group
- Environmental Visual Artist

Other interested parties are welcome to join the partnership and self identify to UNEP, see:

<http://www.unep.org/hazardoussubstances/Portals/9/Mercury/Documents/PartneshipsAreas/PartneshipsLetters/Registration%20Form.pdf>.

X. Linkages

- Mercury in wastes partnership area, particularly storage aspects. Coordination with projects on the environmentally sound management of mercury waste (UNEP Chemicals-SBC projects in Burkina Faso, Cambodia, Chile, Pakistan, Philippines and the USEPA-SBC projects in Argentina, Costa Rica, and Uruguay (joint project with Products partnership area). Follow up on the initiatives of the Waste partnership on relevant documents (e.g. Good practices)

- Chlor alkali partnership area. Activities aimed at phasing out mercury cell chlor-alkali facilities should be coordinated with this partnership regarding the fate of the mercury at the closing or converting facilities. Concretely, storage and disposal options and technologies could be provided to chlor alkali facilities that plan to convert to non mercury technology.

- Products partnership area (in addition to Products-Wastes projects with the SBC). Coordination with hospitals and schools projects geared to reduce the use of mercury containing equipment and products, as well as to explore possibilities for proper storage and disposal. In addition, the Products partnership is seeking to expand its work to develop mercury products and emissions inventories.