UNEP Global Mercury Partnership

Business Plan (December 2012)
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.

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 November 5-6, 2011 UNEP Global Mercury Partnership Advisory Group meeting, the governments of Uruguay and Spain were identified as co-leads for this proposed partnership area.

Administration and Management Support		Source of support
Partnership Lead	• **Facilitation and support of the Partnership** • **Preparing Business Plans** • **Preparing for meetings** • **Logging meeting notes, tracking action items** • **Collaborating with partners to strategically link to overall partnership goals and objectives**	**Government of Spain** **Government of Uruguay**
UNEP Secretariat support	• **Managing the clearinghouse/website** • **Taking in funding from multiple sources to fund projects** • **Developing activity proposals in collaboration with partners** • **Assisting the lead in following up activities by partners** • **Other tasks as requested**	**In-kind support from UNEP**
Teleconferences and meetings	**At least one per year and as needed**	**Governments of Spain and Uruguay**

The partnership is open for governments and stakeholders participation. We welcome financial assistance to help and facilitate activities of the partnership.

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 agreed on a ban on mercury exports and on a storage obligation for surplus mercury from major sources beginning in 15 March 2011. In December 2011, the EU amended EU Directive 1999/31/EC on the landfill of waste, as regards specific criteria for the temporary storage of metallic mercury considered as waste.
    - 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.[1]
- 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 main 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 by-product generation at a given facility depends upon the mercury concentration in the ore and the nature of pollution control activities at the facilities; otherwise, it would be emitted to the atmosphere. Additional pollution control requirements could reduce the quantity of by-product 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.

[1] 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 decommission of mercury chlor-alkali plants; and the quantity of by-product mercury generated from non-ferrous metal processing, gold mining and oil/gas production;
- Working with relevant industry sectors, governments and other interested parties to establish a nation by nation global mercury inventory.
- Developing industry sector plans for the storage of mercury from chlor-alkali plants, non-ferrous metal processing, and oil/gas production;
- Gathering additional data on the extent to which the existing waste infrastructure could be used for elements of the surplus mercury storage needs for the near term at least.
- Assessing and facilitating availability of options and technologies for storage or final disposal of excess mercury supply from other sources; and
- Facilitating the implementation of export ban legislation in additional countries or regions.

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 Paolo, 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/EECA%20Excess%20Mercury_Final%20Draft_Apr2010.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

- 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.
- In April 2012, Argentina and Uruguay successfully concluded their respective national mercury storage and disposal projects supported by UNEP with funding from Norway ODA. Project activities included assessment of relevant national legislation/regulatory framework and inventory of hazardous waste treatment facilities that will serve as temporary mercury storage facilities. On the basis of these inventories, as well as inventories of mercury use and releases, basic management options were investigated. National coordinating mechanisms to safely store and treat mercury waste were created and/or strengthened. The project resulted in national action plans aimed at the environmentally sound storage and disposal of mercury in both countries. Information about these projects is available at http://www.unep.org/hazardoussubstances/Mercury/PrioritiesforAction/SupplyandStorage/Activities/LACMercuryStorageProject/MercuryStorage2CountriesProject/tabid/79070/Default.aspx.
- In May 2012, the Government of Spain (the Ministry of Agriculture, Food and Environmental Affairs and the National Technological Centre for Mercury Decontamination), along with the Governments of Brazil and Uruguay, organized a workshop on mercury management in the Latin America and the Caribean (LAC) Region. The workshop was planned within the framework of activities proposed for the Supply and Storage Partnership Area of the Global Mercury Partnership (UNEP). Participants attending the workshop were representatives from governments, UNEP, NGOs, research and technological centres of chemical conventions, as well as representatives of key industrial sectors for mercury, such as the gold mining industry and the chlor-alkali sector. The workshop addressed the situation and challenges in managing mercury in the LAC Region, analyzing possible environmentally sound solutions. Information about this workshop is available at