



**Global Mercury Partnership
Partnership Advisory Group
Fourth meeting**
Rome, 27-28 September 2012

Report on Activities of the UNEP Global Mercury Partnership (July 2010 – June 2012)

Note by the Secretariat

The Overarching Framework of the UNEP Global Mercury Partnership outlines that one of the responsibilities of the UNEP Global Mercury Partnership Advisory Group is to report on activities undertaken within the UNEP Global Mercury Partnership.

The Chemicals Branch of the UNEP Division of Technology, Industry and Economics has drafted a report on activities within the UNEP Global Mercury Partnership, which is set out in the annex to the present note. The current version reflects input received from the partnership area evaluations.

The Partnership Advisory Group may wish to discuss and provide input on the report on activities.

Report on activities of the UNEP Global Mercury Partnership (July 2010-June 2012)

Introduction

1. The Overarching Framework of the UNEP Global Mercury Partnership specifies that one of the responsibilities of the UNEP Global Mercury Partnership Advisory Group is to report on activities undertaken within the UNEP Global Mercury Partnership.
2. Under the Global Mercury Partnership, eight partnership areas have been established, including: artisanal and small-scale gold mining, mercury cell chlor-alkali production, fate and transport, mercury in products, coal combustion, mercury waste management, mercury supply and storage, and mercury releases from cement industry.
3. This report provides a list of the highlights of partnership area activities over the period of July 2010 to June 2012, per partnership area. The partnership area business plans provide a full list of current partnership area work. Business plans are available on the UNEP Global Mercury Partnership website.

Global Mercury Partnership Participation

4. The number of official partners is steadily growing:
 - As of 1 July 2010, there were 70 official partners in the Global Mercury Partnership, including 15 governments, 4 intergovernmental organizations, 31 non-government organizations, and 20 others.
 - As of 30 June 2012, there were 111 official partners in the Global Mercury Partnership, including 24 governments, 5 intergovernmental organizations, 44 non-government organizations, and 38 others.
 - Some of the partners are global industry partners that collaborate and represent a large number of national associations. In addition, the Partnership works with a number of stakeholders that have not yet officially joined.

Artisanal and Small-Scale Gold Mining

5. The United Nations Industrial Development Organization (UNIDO) and the Natural Resources Defense Council (NRDC) are jointly leading the artisanal and small-scale gold mining partnership area.

6. The objective of this partnership area is to reduce and eliminate mercury uses and releases in artisanal and small-scale gold mining (ASGM). The partnership area has set a target of a 50 per cent reduction in mercury demand in ASGM by the year 2017, as an inspirational goal.

7. Key activities in this area include:

- i. UNEP in collaboration with the Global mercury partnership has finalized three key documents, namely
 1. Reducing Mercury Use in Artisanal and Small Scale Gold Mining: A Practical Guide;
 2. A revised version of the Guidance Document on developing a National Strategic Plan. This document is in English, Spanish and French;
 3. Analysis of formalization approaches in the artisanal and small-scale gold mining sector.
- ii. BALIFOKUS and Industrial Resource Centre Medmind held a workshop on sustainable ASGM practices, immediately following the international conference on environmental, socio-economic, and health impacts of Artisanal and Small-scale Mining Conference conducted in Malang in Feb 7-8, 2012. The gathering included 60 participants representing various stakeholders. The workshop identified problems from 5 sub-regions (Sumatera, Java, Kalimantan, Sulawesi, and West Nusa Tenggara) through the sub-regional panel presentations, with special focus on West Nusa Tenggara Province. The workshop also shared non-mercury techniques practiced in other countries, mercury reduction techniques, and phytoremediation options for mercury-contaminated sites. A field trip was set up to show the real situation on the ground. A technical demonstration session was attended by the local miners and communities in one of ASGM hotspots in West Lombok Regency at Pelangan Village.
- iii. The US State Department is funding a project on reducing mercury use and release in Andean Artisanal and Small-Scale Gold Mining that includes: 1. Evaluation of mercury levels in the air in Piura mining operations 2. Education and training of miners in Suyo, Servilleta, Morocho, and San Sebastian to use individual glass bowl mercury retorts. 3. Apportionment of mercury pollution and mobility from small-scale gold mining tailings and processing plants in Ecuador and Peru's shared water resource of the Puyango-Tumbes River. 4. Meetings to establish International Training Center of Artisanal Miners (ITCAM).
- iv. Ban Toxics, together with the Danish NGO, Dialogos, and other partners have embarked on a multi-year project to introduce mercury-free techniques utilizing miner-to-miner trainings. The project has partnered with local miners who do not use mercury, and created an avenue for them to reach out to other miners to convince and train to adopt mercury-free techniques. We have focused on local expertise that improves upon gravitational methods (e.g. use of sluice box and panning) and the use of Borax ($\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$) at the refining stage of the process. The project was started in mid-2011 and has now reached its 1-year mark. The project is focusing on 2 ASGM areas: Balbalan, Kalinga an indigenous community, and the Camarines Norte region of the Philippines. At

least 500 miners in the project areas have been trained, and the project is now beginning to monitor the amount of mercury reduction induced by the project.

- v. The Mercury Watch Database (www.mercurywatch.org) is a project of the Artisanal Gold Council (AGC) and is supported by the UNEP Global Mercury Partnership. The project is dedicated to collecting, analyzing, and disseminating information needs about mercury use and emissions around the world in ASGM. The website is the only global data-base and includes up to date current inventory information including estimated number of miners, mercury use and ASGM gold produced in a country. Data is obtained through national inventory data (if available) and inter alia supplemented by academic research, field visits etc.

Mercury Cell Chlor-Alkali Production

8. The United States of America is acting as lead in this partnership area.

9. The objective of this partnership area is to minimize significantly and, where feasible, eliminate global mercury releases to air, water and land that may occur from chlor-alkali production facilities.

10. Key activities in this area include:

- i. In 2010-2011, the Partnership compiled a comprehensive inventory of mercury-cell facilities throughout the world that was presented as a meeting document at the second session of the intergovernmental negotiating committee for mercury in January 2011. This inventory helps identify countries and organizations that could benefit from technical exchanges. The Partnership is currently updating the inventory and expanding the type of data that will be presented.
- ii. The Partnership produced a draft paper on the economics of conversion of mercury-cell chlor-alkali facilities to non-mercury technology.
- iii. In 2011, UNEP, jointly with World Chlorine Council, Clorosur, the Government of Uruguay, the Convention Coordinating Center for training and technology transfer for Latin America and the Caribbean, and Efice S.A., implemented a project on assessing the applicability of WCC guidance on best practices for chlor-alkali facilities. The Government of Norway has provided funds for these activities in Uruguay.
- iv. The US EPA and the Russian chlor-alkali industry have partnered to reduce mercury releases in wastewater and improve monitoring systems. These successful efforts have reduced releases to the environment by about 1 ton per year. This project was completed in 2011.

Mercury Air Transport and Fate Research

11. Italy is acting as lead in this partnership area.

12. The objective of the partnership area is to increase global understanding of international mercury emissions sources, fate and transport by accelerating the development of sound scientific information to address uncertainties and data gaps in global mercury cycling and its patterns (e.g., air concentrations and deposition rates, source-receptor relationships, hemispheric and global air transport and transformation and emission sources), by enhancing information sharing among scientists and between them and policymakers and by providing technical assistance and training, where possible, to support the development of critical information.

13. Key activities in this area include:

- i) A number of the F&T partners were involved in several special sessions of the 10th International Conference on Mercury as a Global Pollutant (ICMGP), held in Halifax, Nova Scotia, Canada in July 2011.
- ii) A 5-yr research project (2010-2015) has commenced funded by the European Commission aiming to build a Global Mercury Observation System (GMOS). GMOS supports major international programs and conventions aiming to control the effectiveness of control measures to reduce the impact of mercury pollution related to anthropogenic releases on human health and ecosystems.
- iii) Testing of the updated UNEP toolkit for the identification and quantification of mercury releases has taken place in Latin America and Africa

Mercury-Containing Products

14. The United States of America is acting as lead in this partnership area.

15. The partnership area objective is to phase out and eventually eliminate mercury in products and to eliminate releases during manufacturing and other industrial processes via environmentally sound production, transportation, storage, and disposal processes. Numerical targets have been set for 2017 for various product categories (including batteries, lamps, dental amalgam, measuring and control devices, electrical and electronic devices and others such as cosmetics, pharmaceuticals and traditional and ritual).

16. Key activities in this area include:

- i) Technical Support for Mercury Reduction in Hospitals: Four-year initiative to expand existing and launch new health care mercury inventories, promote reduction and waste management, and undertake training pilots.
- ii) Expansion of existing and initiation of new hospitals reduction projects in Latin America; projects are being evaluated for additional funding and expansion. Budget: \$1,000,000 USD. Hospitals Assessment Projects – Chile, Costa Rica, and Honduras: Develop and implement hospitals assessment and reduction/elimination of mercury-containing products in Latin American hospitals. Projects are completed in Chile and Costa Rica; progress on Honduras was delayed but was anticipated to continue. Budget: \$186,149 USD (United States).
- iii) Latin America Hospitals Project: Multi-year initiative to expand existing and launch new health care mercury inventory, reduction, waste management, and training pilots. Partners: Brazil, Costa Rica, Ecuador, Mexico, United States, HCWH, and University of Massachusetts at Lowell. Estimated Date for Completion: April 2013. Costs to date: \$840,000 USD (United States). Phase or Stage of Project: Grants awarded in May 2009; Third year of project began in August 2011.

Mercury Releases from Coal Combustion

17. The International Energy Agency (IEA) Clean Coal Centre is acting as lead in this partnership area.

18. The objective of this partnership area is the continued minimization and elimination of mercury releases from coal combustion where possible. No numerical targets are established for this partnership area.

19. Key activities in this area include:

- i) A Process Optimisation Guidance (POG) document has been prepared for mercury control at coal-fired facilities (2010). The POG outlines how changes in plant performance and efficiency can reduce emissions of all pollutants in an effective and economic manner. The promotion of technologies to reduce emissions of other pollutants such as particulates, SO₂, and NO_x are also supported since many of these technologies provide co-benefit reduction of mercury. The POG was reviewed by experts and promoted at workshops held in South Africa, China, and Russia. The POG is now complete and is available in English, Russian, and Mandarin from both the UNEP and IEA CCC websites. The POG was completed within the specified timeframe and within the original budget of US\$51,700.
- ii) A further \$40,000 of funding was obtained from Environment Canada to develop the iPOG – an interactive calculation tool that allows users to provide coal and plant specific data to study mercury behavior on a plant-by-plant basis. The iPOG was finalized in early 2011 and has been provided as both a free download via the Coal Partnership and IEA CCC web pages, and also demonstrated and provided as a data-stick handout at INC3.
- iii) As part of the project “Reducing mercury emissions from coal combustion in the energy sector”: The Ministry of Environmental Protection in China and Tsinghua University has completed one of the largest ever projects to evaluate the mercury contents of coals in China and to estimate current and future emissions from the coal utility sector. An update of this type of information has also been produced in South Africa and Russia. The reports are available from the UNEP Coal Partnership website.
- iv) Two projects demonstrating mercury reduction at two coal-fired power plants are being implemented in Russia, to be completed in 2012.

Mercury Waste Management

20. The Government of Japan is acting as lead in this partnership area and collaborates closely with the Basel Convention secretariat.

21. The objective of the partnership area is to minimize and, where feasible, eliminate unintentional mercury releases to air, water, and land from waste containing mercury and mercury compounds by following a life cycle management approach.

22. Key activities in this area include:

- i) A list of resource persons who are available to provide technical advice on activities of the Waste Management Partnership Area and on reducing mercury releases from waste management was prepared in March 2011 and revised in March 2012.
- ii) The Basel Convention Technical Guidelines on Environmentally Sound Management of Wastes Consisting of Elemental Mercury and Wastes Containing and Contaminated with Mercury. The seventh draft was prepared

by the Small Intersessional Working Group and presented for consideration at the Basel convention Conference Of Parties 10 in October 2011. With several changes the draft was adopted at the COP10 (unedited version is now available on the Basel Convention website). This work was funded by Japan.

Complementary to this, a draft document on Good Practices for Management of Mercury Releases from Waste: the first draft was presented as a non-paper at INC 2 in January 2011.

- iii) The Basel Convention Capacity Building Programme in the Latin America and Caribbean Region: to implement the Draft Basel Convention Technical Guidelines, is carried out in Costa Rica, Uruguay, and Argentina. The programme includes development of inventories of mercury containing wastes at the national level in the health sector and plans for the sound management of mercury wastes, and building of a temporary storage facility in at least one country (Costa Rica) and institutional capacity to manage wastes containing mercury in a sound manner. This programme commenced in December 2009 and is funded by USA.

Mercury Supply and Storage

23. The Zero Mercury Working Group was acting as interim lead in this partnership area, which was initiated in April 2009. In November 2011, the Governments of Spain and Uruguay have taken up the role of co-leads for this partnership area.

24. The supply and storage partnership area contributes to the objective of 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. It has set a target to reduce the global supply of mercury by 50% by 2013, when compared to the supply available in 2005.

25. Key activities in this area include:

- i) In April 2012, Argentina and Uruguay 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. National coordinating mechanisms to safely store and treat mercury waste were created and strengthened. The project resulted in national action plans aimed at the environmentally sound storage and disposal of mercury.
- ii) The Governments of Spain, Brazil and Uruguay organized a workshop on mercury management in the Latin American and Caribbean Region, 21-22 May 2012. The workshop raised the following conclusions:
 - It was recognized that the mercury waste management should be carried out at the place where it is generated to reduce exposure.
 - Stabilization is one of the possible ways used for solving the management of metallic mercury, given the fact that, being liquid is the one that presents more difficulties, technical uncertainties and risks.
 - LAC representatives of the gold mining industry and of the chlor-alkali industry recognized that their sectors could, in principle, assume the costs to implement the mercury management measures.
- iii) The Foreign Economic Cooperation Office of Ministry of Environmental Protection (MEP FECO) of China developed an awareness raising toolkit for managing mercury waste at household and community level in April 2011, including posters for raising the awareness of mercury waste management at household and community level, activity logos, promotional gifts and a

questionnaire designed to assess the dissemination effect of the toolkit were produced. The study concluded that it was necessary and urgent to carry out awareness-raising dissemination for mercury waste.

- iv) The Kyrgyz Republic operates, in the town of Khairdarken, the last primary mercury mine known to export mercury to the global market-place, representing approximately 10% of the global mercury market. A project to support the Kyrgyz Republic transition away from mercury mining has been on-going since 2008 with project support from UNEP, UNDP, UNITAR and ZOI Environment Network. The main contributors to the project have included the United States of America, Norway and Switzerland. The project focuses on reduction of most immediate threats posed by the mine site to the environment and people, promotion of investment in other economic development activities and local alternative employment in the region. The Government of Norway granted 850,000 US\$ of new funding in November 2011 to the project. With these funds as the major source of co-finance, a medium size proposal of \$1 million was approved by the Global Environment Facility (GEF) in July 2012.

Mercury releases from cement industry

26. The Cement Sustainability Initiative (CSI), a group formed under the auspices of the World Business Council for Sustainable Development (WBCSD), is co-chairing the new partnership area to reduce global emissions of mercury from the cement industry.

27. The partnership area has drafted a Business Plan that outlines cost-effective approaches that the Partnership area will undertake in order to achieve reduction in mercury emissions. The Business Plan addresses issues such as the establishment of global mercury inventories, development of techniques to reduce mercury emissions into the environment, and outreach efforts to raise awareness within the industry.

28. The Partnership is currently soliciting members to join and participate in various projects including demonstration projects to prove the feasibility of abatement techniques, such as the applicability of dust shuttling to a wide range of process configurations, advanced abatement techniques and the practical guides for control of raw materials and fuels which can lead to emissions.