# REPORT OF THE SUPPLY AND STORAGE PARTNERSHIP AREA

## 3rd Waste Management Partnership Area Meeting, Manila, Philippines, 9-11 December 2013

## UNEP GLOBAL MERCURY PARTNERSHIP

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# GENERAL INFORMATION

**Objective:** "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** "

**Current Partners**: 14 support letters. Additional stakeholders participate

**Meetings**: 2 face to face meetings, at least 3 teleconferences, other bilaterals

**Funding**: Kirguiz mines Phase I: 500,000$ (**US, NO, CH, UNDP**)
Phase II: 200,000$ (**US**)
Storage activities (**NO, US**)
Workshops on mercury management: LAC region (Brasilia, Brasil); Mediterranean countries (Almadén, Spain): (**ES**)
Waste storage pilot projects: (**NO, US**)
In kind support (**UY, BR, CN, AR**, etc.)

# PRIORITIES

- Reduce or eliminate production and export of Hg from primary mining;
- Determine Hg available from: **chlor-alkali plants, non-ferrous metal mining and oil/gas production**;
- Develop industry sector plans for the storage of Hg from chlor-alkali plants, non-ferrous metal processing, oil/gas production;
- **Assess if the existing waste infrastructure is sufficient and if it could be used for the management of surplus Hg for the near term;**
- **Assess and facilitate availability of options and technologies for the ESM of excess Hg supply, including its storage or final disposal;**

# KEY ACHIEVEMENTS

- **Kyrgyz Republic Mercury Mining Phase Out Project:**

  **- 14 small projects funded: Training events aimed at improvement of skills and knowledge of the community to develop other activities or business different from mercury mining.**

- **Mercury storage activities:**

  **- Studies for the ESM and storage of surplus Hg were carried out in the LAC and AP regions.**

  **- Workshops on Hg management: LAC region (May 2012, Brasilia, Brazil); Mediterranean countries (Dec 2012, Almaden, Spain)**

- **Waste-Storage pilot projects:**

  **- Awareness raising toolkit for managing Hg waste at household and community level (China)**

  **- National Hg storage and disposal projects in Uruguay and Argentina.**

  **- Workshop on global, regional and national situation of Hg (April 2011 Montevideo, Uruguay)**

# KEY ACHIEVEMENTS

**WORKSHOP ON MERCURY MANAGEMENT IN THE LATIN AMERICAN AND CARIBBEAN REGION, 21-22 May Brasilia (Brazil)**

Participation: governments, UNEP, NGOs, research and technological centres of chemical conventions, key industrial sectors, (gold mining, chlor-alkali, lamps management).

- Assessed situation and existing challenges
- Explored environmentally sound solutions
- Provided a forum for knowledge sharing
- Informed mercury management authorities

# KEY ACHIEVEMENTS

**Workshop main conclusions:**

- Small scale projects allow to collect relevant information for decision-making enabling the dissemination of initiatives at regional level, facilitating their consideration at national level.
- It is crucial to have all the different perspectives in the discussions and involve all relevant stakeholders to find balanced and realistic solutions.
- Developing countries have difficulties identifying and funding the construction of appropriate facilities for the safe and environmentally sound storage of Hg wastes.
- It could be convenient to develop storage protocols regarding the different Hg wastes.
- Mercury waste management should be carried out at the place where it is generated: **principles of self sufficiency and proximity**.

# Stabilization/Solidification Technologies

OBJECTIVE:

- Minimizing the risks of Hg releases to the biosphere
- Minimizing feasibility, technically and economically speaking, of reverting the process for mercury retrieval
- Obtaining a product safer and easier to handle

# Stabilization/Solidification Technologies

- **Elemental sulphur and elemental mercury are mixed and heated in a vacuum mixer to form mercury sulphide.**
  *Product = stable solid, environmentally benign than elemental mercury,high insolubility and low vapor pressure*

- **Mercury, or Hg waste, is first stabilized to mercury sulphide and in a second step is micro-encapsulated in a sulphur polymeric matrix.**
  *Product = compact and very resistant solid; complete immobilization of mercury →technically inert (EU and US-EPA test/criteria)*

- **Elemental mercury is first stabilized as black mercury sulphide and then macro-encapsulated in a paraffin matrix.**
  *Product = compact solid, Simple + effective method giving a particularly low-weight product*

# Posible cooperation between WMPA and SSPA

- **Stabilization/Solidification Technologies as a tool to significantly reduce or eliminate releases of mercury from wastes:**
  - **Test the stabilization technologies with other wastes**
  - **Technology transfer**
- **Develop storage criteria for the diverse Hg wastes**
- **Make regional capacity-building for storage**

# Other posibilities of cooperation

**Experiences on remediation of contaminated sites**

**2005** **2009**

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# THANK YOU

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