REPORT OF THE SUPPLY AND STORAGE PARTNERSHIP AREA

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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)
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*
Possible 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 possibilities of cooperation

Experiences on remediation of contaminated sites

2005

2009
THANK YOU

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