Inception Workshop
Norway ODA 2012 Mercury Storage and Disposal Project in Mexico and Panama
10-11 October 2012, Hotel Holiday Inn, Clayton, Panama City

CONCEPT NOTE AND DRAFT AGENDA

A. Objectives of the Inception Workshop:

(a) The meeting is aimed at gaining a better understanding and role clarification on the mercury storage and disposal project objectives, design, outputs and outcome. The project aims to promote the environmentally sound storage and disposal of surplus mercury in Mexico and in Panama. The main outcome of the project is a national action plan on mercury storage and disposal in Mexico and Panama.

(b) The international consultant will present the framework for the inventory of warehouse facilities, legislative/regulatory infrastructure, the "Suggested Framework for Decision Making for the Safe Management of Surplus Mercury", guidelines in drafting a national action plan and other relevant information needed to implement the project.

B. Operating Details:

(a) Participants: representatives from the governments, NGOs, industry, and other relevant stakeholders in Mexico and Panama.

(b) Secretariat: the consultant and UNEP Chemicals; UNEP Regional Office for Latin America and the Caribbean (ROLAC); representatives from the Stockholm Convention Regional Centres in Mexico and Panama; YMCA Panama.

(c) Methodology: A chair will be nominated by the participants. The document "A suggested framework for decision making for the safe management of surplus mercury" will be used as a guide for the project. An open discussion will take place after every agenda item to be presented, where each country will have the opportunity to present their related national circumstances. Action points after every item will be noted and will be further discussed and summarized in the afternoon of day 2.

C. Draft Agenda:

Day 1 10 September October		
Time	**Item**	**Description of the presentation and discussion points**
9.00	1. Opening	Opening and welcoming of the participants (UNEP ROLAC, Panama)
9.15	2. Overview of the mercury process	Remarks on context of the project, partnerships, negotiation process etc. (UNEP Chemicals)
9.30	3. Mercury projects and initiatives	Presentation of past (including mercury inventories) and current activities related to mercury pollution reduction
	3.a. in Panama	in Panama (Panama representative)
	3.b. in Mexico	in Mexico (Mexico representative)
10.45	Break	
11.15	4. LAC mercury storage project options analysis study	Presentation of highlights of LAC mercury storage project options analysis study and its relevance to the project (consultant), discussion (All)
12.00	5. Glossary of terms	Presentation of the draft 7th version of the glossary

		of terms such as commodity and waste (consultant)
13.00	Lunch	
14.00	6. A suggested framework for decision making for the safe management of redundant mercury	Presentation of concept developed by the Integrating Knowledge to Inform Mercury Policy (IKIMP) Initiative (consultant)
15.00	7. Project mandate, background, objectives, relevance to INC process; expected outcome	Presentation and discussion (UNEP Chemicals, All)
15.30	Break	
	8. Project Activities and expected output	Presentation and discussion of project activities and expected output, illustration of examples from previous projects for each item (consultant); discussion of national circumstances for each item (Mexico, Panama)
16.00	8.a. Survey and analysis of possible temporary storage locations in the country	May include an inventory of current mercury or hazardous waste management facilities. Examples may include hazardous waste treatment and disposal facilities, mercury recycling facilities, and gold mining/zinc smelting by product operations generating mercury. The survey will include waste management practices (including waste reduction, collection, treatment, storage and disposal). Sector-specific (health care, chlor alkali, ASGM) data and information from the mercury inventories will be utilized. Capacity needs for storage and disposal will be defined.
17.00	8.b. Review of regulatory framework	A standard matrix for the review of the regulatory framework will be presented. May include national and regional policies on hazardous substances and waste management. This covers review of existing national and local legislation/regulatory measures that may affect the storage and disposal of mercury. Examples include legislation on hazardous substances, on waste, trade, products phase-out, and others.
18.00	Closure of Day 1	(Chair)
Day 2 11 October		
9.00	Recap of day 1 discussion	(ROLAC)
09.30	8.c. Establishing decision-making process	Creating or strengthening existing national interagency coordinating bodies (government, NGOs, industry). Countries will identify stakeholders, their roles will be defined and the nature of their engagement. At the end of the dialogue process, the objectives of the national surplus mercury management will be agreed upon.
10.00	8. d. Assessing basic management options	Presentation of global management options, including recent developments (stabilization, retorting etc.). Concrete management options will be identified based on the survey and inventory. This may include review of technology status. The country may proceed with defining a site pre-selection criteria and technology for storage and disposal.

11.00 Break		
11.30	8. e. Developing national mercury storage and disposal action plan	Based on the inventory results and assessment of basic management options, a national mercury storage and disposal plan will be developed based on multi stakeholder engagement. The consultant will present guidelines on how to develop national action plans dealing with mercury storage and disposal.
12.30	Lunch	
14.00	Drafting of project work plan by country	The workplan will outline the project activities, resources and persons responsible for the next 12 months of project implementation (Mexico, Panama)
15.30	Break	
16.00	Presentation of project work plan by country	(Mexico, Panama)
17.00	Country reports	A standard format for the country reports will be presented (consultant)
17.30	Closure of the meeting	(Chair)

D. Project Background and Mandate:

1. Identifying environmentally sound storage solutions for mercury is recognized by the international community as a priority. Mercury supply is exceeding demand in many parts of the world as a result of the movement towards use of mercury-free alternatives. This surplus must be managed and stored properly, thereby preventing its re-entry into the global market. In the region, underground facilities, i.e. removal from the biosphere, do not constitute a feasible solution in the near future. Hence, the use of appropriate above-ground warehouses, i.e. removal from the market, may be more suitable for ensuring the environmentally sound management of surplus mercury. For this purpose, it is crucial to ensure the existence of necessary expertise and infrastructure. There is a need to improve both technical standards for environmentally sound management and institutional capacity.

2. The importance of mercury storage was affirmed at the second session of the intergovernmental negotiating committee (INC 2) of mercury (24-28 January 2011, Chiba, Japan) where many representatives said that the issue of storage was extremely important and inherently related to the issues of supply and demand. Delegates said that interim storage projects should be undertaken in the short-term while long-term plans and policies are being developed. At INC 3, the Latin America and Caribbean (LAC) region expressed concern about the insufficient information on the capacity of most developing countries for the effective and economically viable long term storage of mercury.

3. This project is a follow-up to the 2009 Norway- funded project "Reducing Mercury Supply and Investigating Safe Long Term Storage Solutions", also known as "UNEP Mercury Storage Project". The project is in parallel with the intergovernmental negotiating committee (INC) process that will elaborate a legally-binding instrument for mercury. This project is part of the continuing work to provide technical assistance to countries in search for environmentally-sound long-term storage for elemental mercury, identified as a priority of governments.

4. The project is patterned after the mercury storage and disposal project initiated in Uruguay and Argentina in June 2011. A results workshop was carried out in April 2012. Given the successful outcomes, it was decided to replicate the project in Mexico and Panama. This will allow participants to draw on the valuable lessons learnt and take advantage of the gained experience. More information is available at http://www.unep.org/hazardoussubstances/Mercury/PrioritiesforAction/SupplyandStorage/Activities/LACMercuryStorageProject/MercuryStorage2CountriesProject/tabid/79070/Default.aspx
The previous two-countries project revealed that Argentina has four potential sites for temporary storage, one of which is located in a province allowing the import of mercury waste.

5. The Chemicals Branch of UNEP Division of Technology, Industry and Economics implemented the Mercury Storage Projects in the Latin America and Caribbean (LAC) and in the Asia-Pacific Regions in March 2009. The projects are aimed at reducing the release of mercury into the environment by initiating regional processes that will support the sequestration of excess mercury in these regions, thereby preventing its re-entry into the global marketplace. More information about the project can be found at the http://www.unep.org/hazardoussubstances/Mercury/InterimActivities/Partnerships/SupplyandStorage/LACMercuryStorageProject/tabid/3554/language/en-US/Default.aspx

6. The project builds on GC 25/5 III decision that requested "UNEP Executive Director working through the Global Mercury Partnership and concurrently with the work of the Intergovernmental Negotiating Committee to develop a legally-binding instrument on mercury, to continue and enhance as part of international action on mercury the existing work, including enhancing capacity for mercury storage".

7. The project is recognized as an activity under the UNEP Global Mercury Partnership on Supply and Storage, currently led by the governments of Spain and Uruguay. The partnership area's objective as set out in the business plan is "to contribute to the minimization and, where feasible, elimination of mercury supply, considering a hierarchy of sources, and the retirement of mercury from the market as a result of environmentally sound management". It recognizes that "mercury supply and trade are priority areas for the intergovernmental negotiating committee and aims to halve the global supply of mercury by 2013". The full partnership on supply and storage business plan is available at http://www.unep.org/hazardoussubstances/Mercury/InterimActivities/Partnerships/SupplyandStorage/tabid/3546/language/en-US/Default.aspx

8. The safe long term storage of mercury is seen as a requirement or obligation as countries implement legislation leading to excess mercury supply. A number of countries and regions have already passed legislation or enacted regulatory measures to reduce mercury supply both nationally and regionally. Worth noting are the mercury export ban which came into force for the European Union by 2011, the US export ban for 2013, and the export bans in Sweden and Denmark. Information on developments and progress of mercury storage in other countries is available at http://www.unep.org/hazardoussubstances/Mercury/PrioritiesforAction/SupplyandStorage/Reports/tabid/4508/language/en-US/Default.aspx

9. The legislative frameworks in place regarding mercury use, phase-out, trade, and storage in the various countries of the GRULAC region is generally rather limited, fragmented and differs considerably across countries. However, contrary to many other countries, Brazil, Mexico and Argentina have relatively more mature regulations in place, including phase-out mechanisms. In line with this, a number of countries have incentives in place aimed towards substituting for mercury-free products. Furthermore, content requirements exist in some countries, for instance regarding batteries. Only some countries, such as Argentina, Brazil, and Panama, have trade control specifically addressing mercury. Regulations on the use of mercury are only slightly more widespread. An example includes Panama's prohibition on the use of mercury in agrochemicals products or Bolivia's licensing system for the use of mercury in mining. Another example is Brazil's resolution obliging manufacturers and importers to implement management plans for mercury containing batteries at the end of their lifespan and to ensure a system is in place for their collection and disposal.

Obligations for landfills to stabilize and solidify mercury wastes are rare. As a result of lacking regulations and inadequate enforcement, major deficiencies exist with regard to the interim storage, transportation and disposal, resulting in considerable releases to the environment. In fact, no regulations explicitly addressing either the storage or the disposal of mercury containing wastes seem to be in place. Mostly, mercury is not explicitly covered in existing legislation. Exceptions include Brazil and Cuba, where mercury is explicitly accounted for, although no specific bill exists. In most countries mercury is dealt with under the category of hazardous substances. Even where legislation is in place, a lack of enforcement often obstructs environmentally sound management. Regulations addressing the management of hazardous waste are in place in the majority of countries. Interestingly, except for Brazil, Chile, Mexico and Panama, a framework governing disposal is very uncommon. Few regulations for waste storage seem to be in place. Mexico, Brazil and Chile are positive exceptions, prescribing rules vis-à-vis the selection of appropriate sites.

With regard to trade legislation , almost all countries[1] in the region restrict the import of hazardous substances, both for recovery and for final disposal. Exemptions are generally allowed for but subject to certain conditions (i.e. licensing, payment of a fee, adequate insurance etc.). El Salvador, for example, obliges importers to obtain an environmental permit. Brazil and Ecuador have relatively comprehensive prohibitions in place. Restrictions on the transit of hazardous wastes are in place for most countries in the GRULAC, with Brazil and Venezuela being noteworthy exceptions. Meanwhile, export restrictions are in place only in a small, albeit growing number of countries: Cuba, Ecuador, Mexico and Nicaragua restrict the export of hazardous waste, while Bolivia is currently preparing a regulation restricting export for the purpose of recovery. As regards implementation of the amendment to the Basel Convention, the record is mixed, with a slight majority of countries having implemented it[2]. It is thus possible to identify two broad groups: Those countries having restrictions or bans on both imports and exports and those with restrictions or bans on imports but not on exports. In any case one a growing tendency towards more stringent restrictions can be observed.

This is a welcome development further limiting the amount of mercury in the global marketplace and decreasing developing countries vulnerability vis-à-vis hazardous substances. Meanwhile, it should be kept in mind that this limits options available to countries for dealing with surplus mercury: Developing countries in particular often lack appropriate facilities for environmentally sound storage. In such cases, export to a country with adequate infrastructure might constitute the only feasible option. Import and export restrictions and bans should therefore allow for exceptions subject to the approval of the responsible national authority and in line with international requirements such as those stipulated by the Basel Convention

10. In both countries, sector specific inventories of mercury waste and waste management practices are available from the projects. The latest available mercury inventory available for Mexico dates from 2004. The inventory was compiled on the basis of information presented by 895 facilities regarding releases of mercury and mercury compounds. The existence of a range of uncertainties means that the data should be treated with caution. Nonetheless, the findings are indicative of certain trends. According to the inventory, in 2004, a total of about 448Mg[3] of Mercury were released to the various vectors. Gold extraction and processing was the single largest source of mercury releases, followed by batteries and landfills/deposits. The inventory also reveals that more than 40% of mercury is released to land and waste, while only 10% is emitted to air. The mining of gold, waste disposal, and extraction and processing of zinc account for nearly all releases to land. Waste releases are mainly a consequence of the use and disposal of mercury containing batteries and landfills/deposits. As regards air releases, the use of paints constitutes the largest fraction. Products and water are less prominent output pathways with about 5% and 1% respectively. The inventory suggests that addressing mercury use in mining should be a priority area.

The situation in Panama is similar. The largest amount of mercury is emitted in the production of other minerals and materials with mercury impurities. Consumer products with intentional use of mercury as well as wastes depositing/landfilling and waste water treatment constitute other major sources of mercury emissions. As regards the subcategories, (1) cement production, (2) informal dumping of general waste and (3) electrical switches and relays with mercury figure most prominently. It is important to note that, in contrast with Mexico, air constitutes the main output pathway, followed by water and wastes/residues. It can be concluded from available data that the priority areas in terms of reducing mercury emissions lie in the (1) Health and Commercial sectors, the (2) Mining and Commercial sectors, and the (3) waste reuse, treatment and disposal of waste/residues with mercury content.

11. The project will be in collaboration with the UNEP Regional Office for Latin America and the Caribbean (UNEP/ROLAC) and the Stockholm Convention Regional Centres in Mexico (CENICA/INE) and Panama (CIIMET, in alliance with YMCA-Panama). This project will be done in consideration of the draft "Basel Technical Guidelines on the Environmentally Sound Management of Wastes Consisting of Elemental Mercury and Wastes Containing or Contaminated with Mercury".

[1] Argentina, Bolivia, Brazil, Costa Rica, Ecuador, Guatemala, Honduras, Mexico, Nicaragua, Saint Lucia, Venezuela. Barbados, by contrast has no restrictions in place in either category. Cuba allows imports for the purpose of recovery (but not final disposal).

[2] Argentina, Barbados, Cuba, Guatemala, and Venezuela are examples of countries not having implemented the Amendment. By contrast, countries such as Brazil, Costa Rica, Ecuador, Honduras, Mexico, Nicaragua, and Saint Lucia have already implemented the Amendment.

[3] Megagrams

E. Activities and Highlights of the LAC Regional Mercury Storage Project:

1. **Assessment Report of the Excess Mercury Supply in Latin America and the Caribbean, 2010-2050**

The report indicated that the mercury supply may exceed demand around 2015 in the LAC region, with a need to store 8,300 tonnes of mercury by 2050. The report showed the need to address both the potential excess/surplus mercury (coming from closed chlor alkali plants, byproduct from non ferrous mining and from oil and gas operation) as well as the management of mercury waste (coming mostly from the end-of-life products). An immediate threat to human health and the environment are mercury wastes that occur in many Latin American and Caribbean countries. Improved collection systems lead to an accumulation of mercury waste that cannot be disposed due to a lack of appropriate treatment and disposal facilities. The complete report is available at
http://www.chem.unep.ch/mercury/storage/LAC%20Mercury%20Storage%20Assessment_Final_1July09.pdf

2. **Options Analysis and Feasibility Study for the Long-Term Storage of Mercury in Latin America and the Caribbean (original version)**

2.1. The study was produced by the Laboratorio Technologico de Uruguay in October 2010. Options included above-ground storage facilities (such as warehouses), underground storage facilities and export to foreign facilities The report provided a description and analysis of the issues for consideration in implementing the specified options using various criteria (technological, environmental, public health and safety, financial, socio-political, human resources, legal, and regulatory)
The full report is available at
http://www.unep.org/hazardoussubstances/Portals/9/Mercury/Documents/supplystorage/Final_Draft_LAC%20Hg%20Options_Chile.pdf

Experience gained in the United States with an above-ground warehouse facility and in the European Union with an underground geological formation facility was considered valuable in assessing the available options. These were discussed at the LAC storage project inception workshop that took place in April 2009 in Montevideo, Uruguay.

2.2. At present, the LAC region is characterized more as importer of mercury than as exporter. This situation may change in the near future, in particular with the improvement of regional trade of mercury. The bans on mercury exports from Europe and USA may encourage chlor alkali plants adapt to mercury free technology especially due to the chlor alkali plants and artisanal and small scale gold mining. Legislation to control mercury use is improving in various countries of LAC. This includes legislation on waste management and initiatives to phase out the use of mercury. This scenario is likely to accelerate mercury surplus in the LAC and the need to establish a storage facility.

2.2.a. According to the LAC report, underground facilities are an unlikely solution in the short term for most countries in the region, owing to the lack of reliable information on the potential geological and environmental resources that could host a storage facility. Geographic, legal and cultural conditions to host an underground facility may not be met. Economic factors can influence the decision, given that the infrastructure required in underground storage facilities may demand very high investments.

2.2.b. The LAC report reveals that above-ground engineered warehouses may be the most suitable and feasible facilities for the long-term storage of mercury for the region. However, mercury stays in the biosphere. Political and institutional stability are conditions to keep and ensure mercury sequestration. An above-ground engineered warehouse may be a short-term solution for mercury storage in the LAC region.

2.2.c. The option to export excess mercury was considered in the report as a short term solution for those countries with a very small mercury surplus. This option can be combined with interim storage in above-ground facilities such as hazardous waste treatment facilities. This solution requires bilateral cooperation agreements for the approval of exports and reduction of the costs entailed by the final disposal

3. **A Suggested Framework for Decision Making for the Safe Management of Surplus Mercury**

The UK Department for Environment, Food and Rural Affairs supported an Oxford Workshop on the Safe Storage and Disposal of Redundant Mercury. (October 2009, Oxford, UK). As a result of the workshop, the document "A suggested framework for decision making for the safe management of surplus mercury" was developed. This framework document on decision making could be used as a guide in this proposed project that will result in a national action plan for national governments to safely store their mercury either as a potential commodity or as a waste. The document is available at http://www.unep.org/hazardoussubstances/Mercury/PrioritiesforAction/SupplyandStorage/Reports/tabid/4508/language/en-US/Default.aspx

4. LAC Mercury Storage Project Execom meeting in Chile, on 21-22 October 2010

At the most recent meeting of the LAC Mercury Storage Project Execom (21-22 October 2010, Santiago, Chile), options for above ground, underground and export to a foreign facility for the long term storage of mercury were further considered. However, representatives expressed the need for temporary or interim facilities to store elemental mercury mostly coming from chlor alkali plants and by product of nonferrous smelting, as well as for mercury containing waste such as those coming from end-of-life mercury added products.

5. Mercury Storage and Waste Project in Argentina and Urugay

Acknowledging the challenges attached to ensuring effective and economically viable long term storage of mercury, INC 2 called for the implementation of interim storage projects. Funded by the government of Norway and implemented by the UNEP Chemicals in collaboration with the Basel Secretariat and Regional Cooperating Centers, this project explored mercury storage options in Argentina and Uruguay. The project is under the umbrella of the Global Mercury Partnership on Supply and Storage.
Possible temporary storage locations were assessed, the legislative framework reviewed, potential costs calculated and basic management options investigated. The objective was to promote the environmentally sound storage and disposal of surplus mercury in the two countries. A pre-selection identified several potential sites for the temporary storage of mercury waste in both countries. Also, knowledge was substantially improved regarding key issue-areas, including regulatory gaps. Another important output is the national action plans drawn up by both countries. Further information is available at http://www.unep.org/hazardoussubstances/Mercury/PrioritiesforAction/SupplyandStorage/Activities/LACMercuryStorageProject/MercuryStorage2CountriesProject/tabid/79070/Default.aspx