



**United Nations
Environment
Programme**

Distr.: General
12 May 2010

English only

**Intergovernmental negotiating committee
to prepare a global legally binding
instrument on mercury**

First session

Stockholm, 7–11 June 2010

Item 4 of the provisional agenda*

**Preparation of a global legally binding
instrument on mercury**

**Compilation of materials presented during the information
sessions at the meeting of the ad hoc open-ended working
group to prepared for the intergovernmental negotiating
committee on mercury**

Note by the secretariat

1. During the meeting of the ad hoc open-ended working group to prepare for the intergovernmental negotiating committee on mercury, which was held in Bangkok from 19 to 23 October 2009, three information sessions were held, during which presentations were made on issues relevant to the work of the committee. The secretariat has the honour to provide, in the annex to the present note, a compilation of materials from those presentations, along with a summary of each information session prepared by the secretariat.
2. The annex is separated into three sections following the format and order of the information sessions:
 - (a) Mercury supply and storage;
 - (b) Artisanal and small-scale gold mining;
 - (c) Mercury in products and wastes.

* UNEP(DTIE)/Hg/INC.1/1.

Annex

Compilation of presentations made during information sessions at the meeting of the ad hoc open-ended working group to prepare for the intergovernmental negotiating committee on mercury, 19–23 October 2009, Bangkok

A. Mercury supply and storage

1. The Governing Council of the United Nations Environment Programme (UNEP), in paragraph 34 of its decision 25/5, requested the Executive Director of UNEP to continue and enhance mercury-related work in a number of areas, including building capacity for mercury storage and reducing the supply of mercury from primary mercury mining.

2. On Tuesday, 20 October 2009, the ad hoc open-ended working group to prepare for the intergovernmental negotiating committee on mercury heard the following three presentations on mercury supply and storage:

- (a) Overview of supply and storage (Mr. Peter Maxson, UNEP consultant)
- (b) Summary report on the international forum on the Kyrgyzstan primary mercury mining project (Ms. Brenda Koekkoek, UNEP)
- (c) Mercury storage issues (Mr. Michael Bender, Zero Mercury Working Group)

3. The following key points emerged from the information session:

- (a) The mercury supply chain is limited, with a few key players. Intervention is practical in this area;
 - (b) Measures under a legally-binding instrument to reduce the supply of mercury may be one of the more effective ways to protect human health and the environment from mercury;
 - (c) The limited sources of mercury supply globally allow for targeted action;
 - (d) The first areas to consider for action may be major sources and new mercury;
 - (e) Export bans and storage are the main potential tools for reducing supply;
 - (f) Transparency of trade in mercury, mercury compounds and mercury products will be essential for the successful implementation of any agreed measures;
 - (g) Measures to address mercury supply may require national or regional legislation and regulatory measures;
 - (h) The report on current supply and demand for mercury, which includes estimates of the availability of mercury following the phase-out of primary mercury mining (UNEP(DTIE)/Hg/OEWG.2/6), demonstrates that primary mining is not essential;
 - (i) Progress is being made with the Kyrgyzstan primary mercury mining project and the regional storage projects in Asia and the Pacific and Latin America and the Caribbean. There will be a need for continued assistance to develop those projects and make progress in those areas.
4. A detailed summary of the discussion during the meeting of the working group is set out in the report of the meeting, which is reproduced for the first session of the intergovernmental negotiating committee in document UNEP(DTIE)/Hg/INC.1/INF/1.

GLOBAL MERCURY SUPPLY AND TRADE BY PETER MAXSON

SLIDE 1

**GLOBAL MERCURY
SUPPLY AND TRADE**

Peter Maxson
Concorde East/West Sprl - Brussels

*Ad hoc Open-Ended Working Group to prepare for the
intergovernmental negotiating committee on mercury*
UNEP Chemicals Branch - Division of Trade, Industry, and Economics
Bangkok, Kingdom of Thailand 19-23 October 2009

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Overview

- **Global mercury supply**
 - Reducing mercury supply as a major policy option
- **Global mercury trade**
 - Improving our understanding of mercury trade

P. Maxson - Concorde East/West Sprl - Brussels - concorde.eu@base.be - 20 October 2009

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Sources of supply

- **Primary mercury mining**
- **By-product mercury recovery**
- **Chlor-alkali mercury cell-rooms**
- **Recycling of industrial wastes**
- **Recycling of mercury products**
- **Commercially available mercury stocks**

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Global mercury supply (2007)

Main mercury sources	Metric tonnes/year
Primary mercury mining	1300-1600
By-product mercury recovery	400-600
Chlor-alkali facilities	700-900
Recycling of mercury catalysts, wastes and products	600-800
Commercially available mercury stocks	As needed (+)
TOTAL	3100-3900+

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Small number of large mercury producers

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Small number of major mercury traders

Major metallic mercury traders	Estimated % of commercial market
Almadén (Spain)	10-15
Khaidarkhan Mining Conglomerate (Kyrgyzstan)	10-15
Lambert Metals (UK, Netherlands)	10-15
Others - Berliia or Berimercurio (India), Bethlehem Apparatus (U.S.), Claushuis (Netherlands), Triveño (Peru)/D.F. Goldsmith (U.S.)	25-30
Chinese trade (internal market, not "global")	25-30

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Observations about trade and end-uses

- General direction of mercury trade is from wealthier countries to less wealthy countries
 - shifts in global manufacturing
 - expansion of artisanal gold mining
- Mercury traders have little or no control over mercury end-uses
- End-uses may be highly dispersive:
 - locally (e.g. batteries, thermometers, lamps)
 - globally (e.g. artisanal gold mining)

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Observations about mercury life-cycle

- Management of the mercury life-cycle has improved in many countries
- However, the global mercury problem is not improved if mercury is carefully managed in one country, and then exported to another country where it may be less carefully controlled
- UNEP(DTIE)/Hg/OEWG.2/6/Add.1 report, demonstrated the feasibility of major reductions in the global mercury supply

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Rationale for focusing on supply

- Few major mercury sources to deal with
- Few major traders to monitor
- Some sectors are more responsive to “supply management,” particularly:
 - if the activity may not be legal,
 - if it is difficult to enforce legislation, and/or
 - if the activity is highly decentralized (e.g. artisanal and small-scale gold mining)

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'Market' response to restricted mercury supply

- Mercury suppliers consider diverse sources, such as enhanced recycling
- Mercury price increases
- The value of certain mercury wastes increases
- Users of mercury in products and processes shift more rapidly to mercury-free alternatives

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Key measures to reduce mercury supply

- Mercury export bans
- Ban on new primary mercury mining, and phase out existing mercury mining
- Collect mercury from major sources (e.g. chlor-alkali and by-product mercury) and sequester it from the global marketplace ("long-term storage")

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EU mercury export ban of 2008

Regulation (EC) no. 1102/2008 on banning export of, and safe storage of, metallic mercury:

- No export of metallic mercury or certain mercury compounds after 15 March 2011
- Obligatory safe storage of mercury recovered from chlor-alkali operations
- Obligatory safe storage of mercury recovered as by-product
- Define how to ensure safe and long-term mercury storage before 2011

Some individual EU countries have already implemented their own mercury export bans

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U.S. mercury export ban of 2008

- Federal stockpile cannot be sold
- No export of metallic mercury after 1 January 2013
- Long-term mercury storage facility to be identified before 2013
- Assess whether mercury compounds should be included in the export ban

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Full transparency is critical to reduce mercury flows

- Transparency may be achieved by a required reporting procedure, special tariff codes for mercury products, trader registration, etc.
- Transparency is facilitated by the relatively small number of transactions linked to imports and exports
- Need to deal with challenges of Customs free zones, definition of metallic mercury vs. mercury waste, etc.

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Reducing mercury supply is likely to be at the core of INC discussions

- Most effective way to achieve significant improvement in human health and the environment related to mercury exposures
- Limited sources of mercury supply globally allow for targeted action
- First areas to consider may be major sources and "new" mercury

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Reducing mercury supply (continued)

- **Export bans and sequestration / storage are also key instruments to reduce supply**
- **Transparency of trade in mercury, mercury compounds and mercury products is essential for successful implementation**

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PRIMARY MERCURY MINING IN THE KYRGYZ REPUBLIC

HIGHLIGHTS OF THE INTERNATIONAL FORUM PRESENTED BY BRENDA KOEKKOEK, UNEP

INTERNATIONAL FORUM ADDRESSING PRIMARY MERCURY MINING IN KYRGYZSTAN

SUNDAY 18 OCTOBER 2009

UNEP – UNITAR FINAL MEETING SUMMARY

The meeting was attended by 47 participants representing the following governments and organizations: Azerbaijan, Barbados, Canada, Fiji, Finland, Germany, Kyrgyzstan, Netherlands, Norway, Sweden, Switzerland, United States of America, European Commission, International Energy Agency, United Nations Environment Programme (UNEP), United Nations Institute for Training and Research (UNITAR), Artisanal Gold Council, Global Village of Beijing, Kyrgyz Mining Association, Natural Resources Defense Council, ZOI Environment Network

OPENING OF THE MEETING

Mr. Per Bakken of UNEP opened the meeting. In his opening remarks, Mr. Bakken provided an overview of the mercury results from UNEP Governing Council 25 and its implications on primary mercury mining. He noted that the objective of the Forum was to reflect upon the needs of Kyrgyzstan in transitioning to more sustainable economic activities over the long term, as the last country known to mine mercury for export.

Mr. Bakken emphasized that it was decided by Governments at the UNEP Governing Council 25 (held in February 2009) that a legally binding instrument on mercury will be negotiated by 2013. The legally binding instrument is to include, amongst other things, provisions to limit mercury supply as well as reduce the demand for mercury and reduce international trade in mercury. Furthermore, reducing the supply of mercury from, for example, primary mercury mining (UNEP Governing Council Decision 25/5 Paragraph 34.b) has been identified as a priority area for immediate action. This project is significant given that Kyrgyzstan's Khaidarkan primary mercury mine is the last remaining major supplier of primary mined mercury to the international marketplace (accounting for approximately 10% of the global supply in 2005). Mr. Bakken proceeded to invite the Governments of Switzerland and the United States of America, as the initial donors to the project, to provide background on their involvement in the project to date.

Mr. Craig Boljkovac of UNITAR was appointed as Chair of the meeting.

KYRGYZSTAN INTRODUCTORY REMARKS

Mr. Batyrkul Baetov, State- Secretary of the Ministry of Industry, Energy and Fuel Resources of Kyrgyzstan provided opening remarks on behalf of the Republic of Kyrgyzstan delegation. In his introductory remarks, a clear dilemma was recognized: on the one hand the plant provides 700 direct jobs in a region where employment is scarce; on the other hand, the mine's mercury production poses a potential health and environmental threat for those very same workers and to the people in the surrounding communities. Meanwhile, they are faced with the realities of Governing Council Decision 25/5 and the impact a future global mercury treaty will have on mercury as a commodity. Mr. Baetov noted that the Kyrgyz Republic is ready to consider mine transitioning; however, as it was mentioned earlier, immediate action is difficult due to the lack of funding.

REPORT ON THE CURRENT STATUS OF THE MINE

Mr. Kubanychbev Noruzbaev, Head of the State Ecological Expertise Department, State Agency of Environmental Protection and Forestry Kyrgyzstan and national workgroup coordinator, provided an overview of the current status of the mine. He noted the very serious economic and social aspects of reducing primary mercury production in the region,

given that the facility is a major employer in the region, taxpayer to the local and central government. He elaborated on the history of exploration of Kyrgyzstan's mercury reserves and the production facilities at the active Khaidarkan mine.

He outlined possible options for consideration in three distinct areas for action within the Kyrgyz Action Plan, including:

- i. Remediation / Decommissioning
- ii. Promotion of investment in other industrial activities
- iii. Local alternative development opportunities

NEAR TERM EFFORTS: PROPOSED REMEDIATION / DECOMMISSIONING

Mr. Viktor Novikov, ZOI Environment Network, provided an overview of remediation considerations in moving forward, including the steps to consider, estimated costs and timeframe. Mr. Novikov presented the synopsis report prepared for the meeting that outlines the general remediation and decommissioning needs for the site, including estimated costs.

Overall it was recommended to adopt a phased approach in addressing all relevant issues at Khaidarkan. This phased approach would prioritize action where considerable risk can be reduced in a cost and time efficient manner. Furthermore, early actions were identified that could take place in parallel to a transition process away from current mercury mining operations. In the near term, it was recommended to further expand the environmental analysis, to prepare a medium size GEF proposal for remediation, and to conduct remedial action at the sludge pond.

Addressing slag heaps, tailings, contaminated water stream sediments and waste rock sites will be more difficult and technically challenging, but has the potential for significant impact and should be considered in moving forward. For particular environmental and technical reasons, it was recognized that mine transition should start or ideally be concluded before work related to slag and tailings remediation would begin.

Overall cost for remediation action is estimated between 4.6 and 8.8 million USD over 5 years for a series of high priority activities. In addition to the environmental benefits, this activity would provide considerable near term employment opportunities in the village.

PROMOTION OF INVESTMENT IN OTHER INDUSTRIAL ACTIVITIES

Mr. Valentin Bogdetsky, Kyrgyz Mining Association provided an overview of opportunities regarding private economic development. The action plan outlines a number of options for other economic activities in the region.

Mr. Bogdetsky outlined considerations related to other mining related options, including: gold mining and mining of other industrial minerals (such as gypsum, bentonite, magnesite and serpentine). Such options are all independent options with a range of required investment.

Mr. Bogdetsky noted that further options might be available and considered by the Kyrgyz Republic.

Through his presentation, the need for funds to support feasibility studies that would identify potential investment opportunities was requested by the Kyrgyz Republic.

LOCAL ALTERNATIVE DEVELOPMENT OPPORTUNITIES

Ms. Brenda Koekkoek, UNEP provided an overview of a local development project initiated between UNEP and the United Nations Development Programme. The project is an eight month, 110,000 USD project that aims to expand opportunities of the local population to leverage sustainable entrepreneurship and to improve local socio-economic capacity and infrastructure.

The project supports the implementation of the Country Development Strategy and the 2008-2011 Batken Oblast Development Strategy. The strengths and lessons learnt through UNDP's recent programming in a similar Area-Based Development Programme in Batken Oblast will facilitate project mobilization due to UNDP's existing partnerships,

Project activities include: a participatory needs assessment to determine local economic development challenges and gaps, a series of local trainings, the establishment of a Small Grant Facility and the initiation of a limited number of pilot small business development and socio-economic infrastructure projects.

This is considered phase I of the project. Ultimately, it is intended that this project will go further and set the stage for phase II of the project further building the Small Grants Mechanism and implementing business development and infrastructure projects through it. As such, the involvement of local and international stakeholders will be important in the upcoming process of setting up the Small Grants Mechanism.

DISCUSSION OF OPPORTUNITIES AND CONCLUSIONS FOR NEXT STEPS

Mr. Craig Boljkovac gave a brief overview of the discussion that took place over the morning.

Overall it was felt that a constructive dialogue took place at the forum. The international community engaged directly with the Kyrgyz delegation indicating support for the Kyrgyz Republic to move from planning to action as next steps. They noted recognition that the economic circumstances of Kyrgyzstan are a critical consideration in moving forward. The international community indicated an appreciation for the commitment shown by the Kyrgyz delegation and the significant progress made in Kyrgyzstan on the project, including the broad engagement of ministries and civil society.

The international community noted that near term progress in Kyrgyzstan is an opportunity to make a difference globally while the negotiations of a legally binding instrument on mercury are on-going. They noted general support for actions in the near term with respect to remediation and promoting local alternative development.

The international community also recognized a general need for feasibility studies to promote investment and expressed a willingness to move forward jointly with the Kyrgyz Republic to facilitate steps towards the cessation of primary mercury mining and a transition to an environmentally sound and stable local economy.

The Government of Switzerland indicated the need for the donor community to discuss creative approaches to meeting needs of Kyrgyzstan for financial support to help them undertake large scale projects aimed to address the environmental impacts of the mining operation and to ameliorate the social impacts related to closing the mine. As initial support, the Government of Switzerland indicated that they have budgeted 150,000 Swiss Franc for Kyrgyzstan, as part of the Swiss GEF constituency, for a small to medium size GEF remediation project at the mine site.

The Government of the United States of America indicated it has budgeted seed funding to support the Kyrgyz Republic further its work. They also indicated willingness to explore the possibilities of further donor support to assist with planned activities.

CLOSING OF THE MEETING

In closing the meeting, Mr. David Piper (UNEP) and Mr. Boljkovac thanked participants for their open participation and welcomed the submission of additional ideas and subsequent discussion over the course of the week.

Materials used in the meeting are available at the following web-link:

www.chem.unep.ch/mercury/Sector-Specific-Information/mercury_supply_activities.htm

II. Artisanal and small-scale gold mining

5. As noted above, the Governing Council of UNEP in paragraph 34 of its decision 25/5 requested the Executive Director of UNEP to continue and enhance mercury-related work in a number of areas. Those areas include awareness-raising and pilot projects in key countries to reduce mercury use in artisanal and small-scale gold mining.

6. On Wednesday 21 October 2009, the working group heard the following three presentations on artisanal and small-scale gold mining:

(a) Overview of artisanal and small-scale gold mining (Mr. Kevin Telmer, Artisanal Gold Council);

(b) National strategic planning projects (Mr. Ludovic Bernaudat, United Nations Industrial Development Organization);

(c) Moving forward/Partnership (Ms. Vilma Morales, Government of Peru).

7. The following key points emerged from the information session:

(a) Artisanal and small-scale gold mining is a complex global development issue. It operates in the informal sector and creates significant demand for mercury but is also an opportunity for development in many countries in a number of regions;

(b) More mercury is used for artisanal and small-scale gold mining than for any other purpose;

(c) The issues associated with artisanal and small-scale gold mining stretch beyond mercury initiatives. Mercury is not the driver for it and it will continue even if mercury is unavailable;

(d) A legally-binding instrument alone, as a top-down legal framework, cannot solve all the problems related to artisanal and small-scale gold mining but could help to create an enabling environment that will allow other mechanisms to support reductions in this sector through, for example, limiting mercury supply globally, awareness-raising and capacity-building;

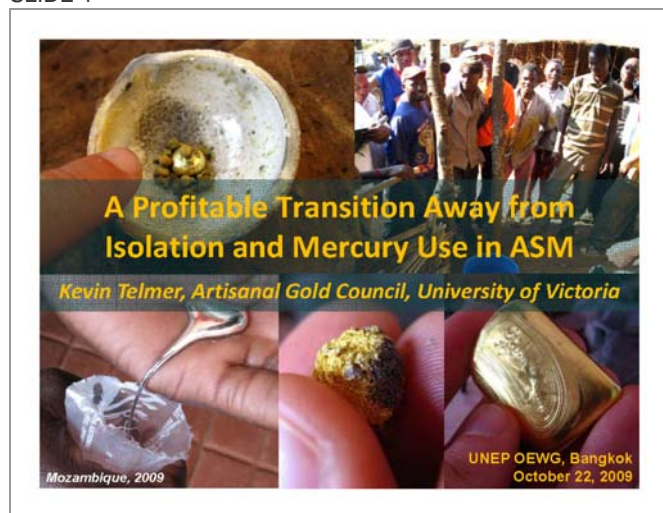
(e) The Strategic Approach to International Chemicals Management Quick Start Programme is supporting strategic planning exercises in a cross section of countries where artisanal and small-scale gold mining is practised. Results from these projects will help to identify key projects that are worthy of support;

(f) The artisanal and small-scale gold mining partnership area is extremely active, in addition to which many activities are conducted independently. The Global Mercury Partnership is an existing coordination vehicle for undertaking immediate and long-term sustainable action.

8. A detailed summary of the discussion during the meeting of the working group is set out in the report of the meeting, which is reproduced for the first session of the intergovernmental negotiating committee in document UNEP(DTIE)/Hg/INC.1/INF/1.

A PROFITABLE TRANSITION AWAY FROM ISOLATION AND MERCURY USE IN ASM BY KEVIN TELMER

SLIDE 1



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Outline

- Gold and Mercury
 - Extent and Causes
- Solutions
 - Technology Transfer
 - Financial Mechanisms
 - Enabling Policy
 - Control of Supply; Higher Mercury Price
- Reduction Scenarios

SLIDE 3

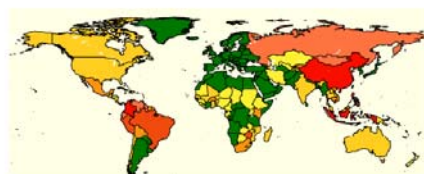
ASM Gold in Poverty Relief

- Artisanal and Small Scale Gold Mining (ASGM) – a superb development opportunity
 - Excellent for transferring wealth from rich to poor countries
 - Small miners often get 70% or more of international price in remote areas; not true for any other product
 - BUT: often involves mercury use
- Improved practices and reputation needed to make this important opportunity sustainable
- **Reducing mercury use is key to realizing this opportunity as well as to reducing global mercury pollution**

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How Important is ASGM? Scale and Economy

- 330 tonnes of gold from 70 countries (12% total gold)
- 10 billion USD at 900\$/ozt
- 10 million miners (3 million women and children)
- Secondary economy, perhaps 50 million people at 50 billion USD/a



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Mercury Watch Database; AGC + UNEP www.mercurywatch.org

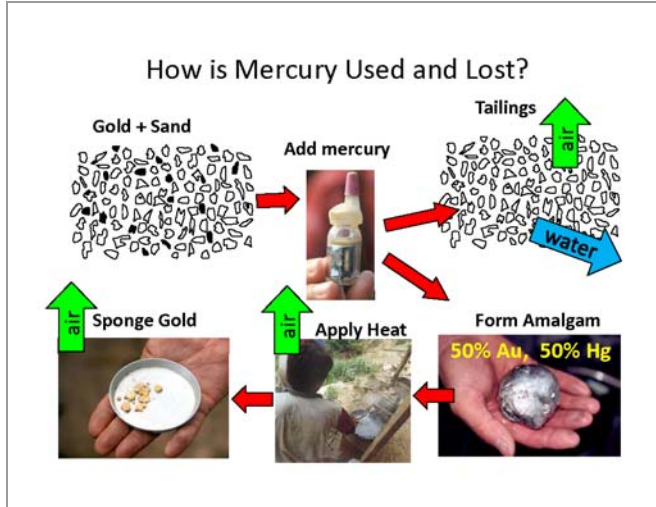


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Mercury Released to Environment from ASM (2008)

- 1000 tonnes/year released
 - 2009 estimates are likely to be more
 - 1/3 anthropogenic releases, 2nd only to coal burning
 - 400 tonnes/year emitted to the atmosphere
 - 600 tonnes discharged into soils, rivers and lakes
- Telmer and Veiga (2008) in: Global Mercury Emissions to the Atmosphere from Natural and Anthropogenic Sources, ISBN: 978-0-387-93957-5 <http://www.springerlink.com/content/02637021581180/>
– Or <http://www.mercurywatch.org/default.aspx?pagename=researchPaper>

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Why is Mercury Used?

- Very easy
- Very independent – 1 person can do it
- Highly effective under field conditions
- Accessible
- Cheap:
 - Jan 22, 2008, mercury US\$0.017/g; gold US\$28/g
 - 1:1650 (local prices are different)
 - Worst prices 1:125 – still cheap
- Facilitates precise transactions
- Produces quick capital (1 day)
- Divides profits
- Miners are not aware of the risks
- No choice

Mozambique, 2009

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Solutions

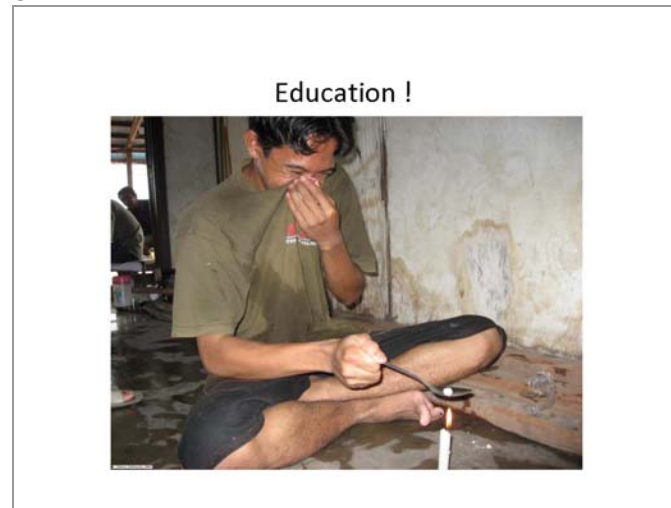
- Technological
- Financial/ market
- Policy

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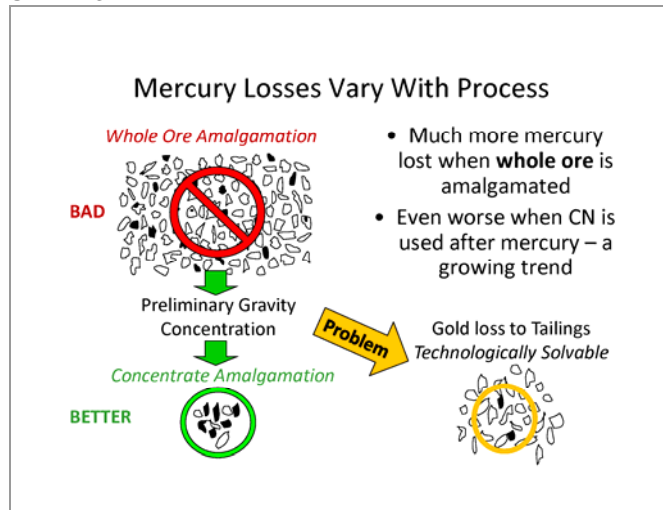
Technical Solutions

- Alternative processing
 - Zero mercury
 - Lower mercury
- Mercury Recycling
 - emissions control (fume hoods, retorts)
 - mercury re-activation
- Widespread education needed about these methods
- Local innovation often critical to adapt methods

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SLIDE 13



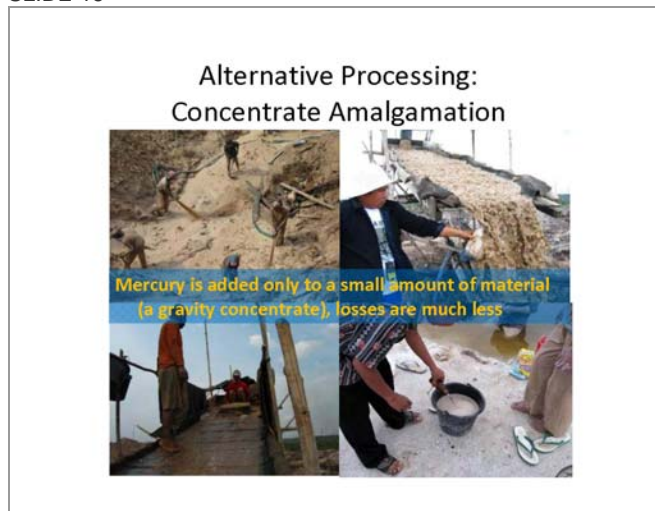
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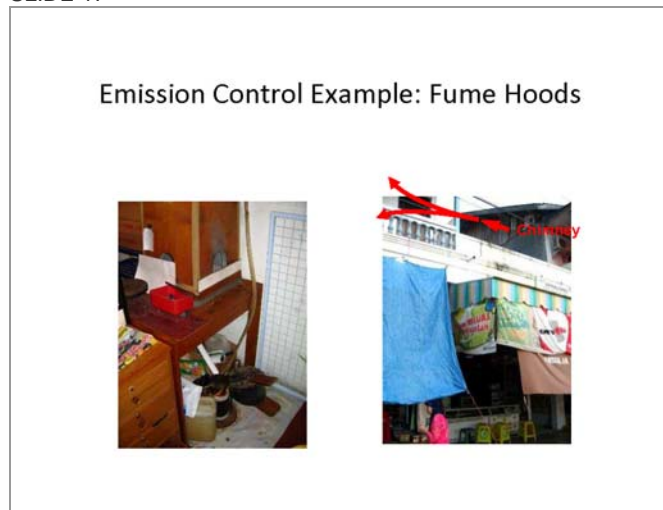
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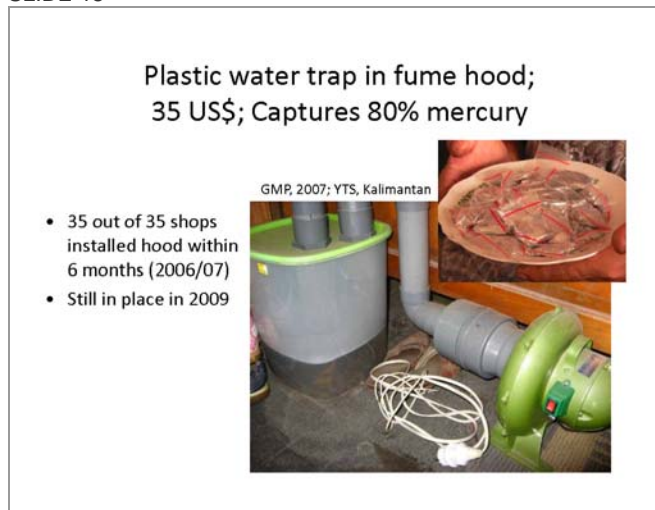
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Emissions Control Example: Retorts

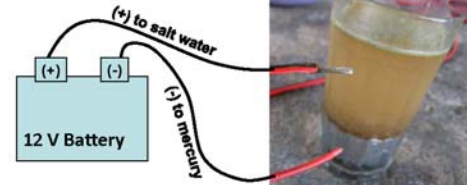
- Captures mercury during amalgam burning
- Many simple designs available with local materials
- Can easily capture 95% or more of mercury in Amalgam



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Mercury Recycling Example: Re-activation

- 3\$ US electrolytic cell prevents miners from:
 - overusing mercury
 - throwing away “sick” mercury
 - buying new mercury to replace old
- Gets more gold
- Profitable at first use



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Financial Solutions

- Using the gold market to incentivize change
 - (e.g., Fair Mined/ Fair Trade brands)
- Access to credit for investment in technology
- Tax incentives (exemptions, innovation credits (e.g. Canada's SR&ED))



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Policy Solutions

- Trade policy reform:
 - export bans / reducing primary mining to reduce supply and increase price;
 - gold import/export liberalisation to enable market incentives
- Mining policy reform, to recognize / incorporate/ formalize ASM systems, to enable education and assistance to miners
- Information sharing to help prioritize action where it is needed and measure progress

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Policy Example: Supply Restriction / Export Bans

- Restricting supply (export bans from major suppliers / reducing primary mining) will cause a rise in mercury price
 - This will incentivize mercury conservation to occur
 - Note: import restrictions and laws about mercury use have not been very effective; *more and better diligence everywhere* approach is wasteful
- Recycling/ re-use has already been embraced by some ASGM communities as profitable; this will be amplified if mercury prices increase
- Scarcity will make miners more receptive to information on how mercury can be sustainably reduced
- Treaty allows global coordination of supply restriction actions

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How can the Transition be Supported?

- The partnership and governments (as per UNEP GC decision) can identify priorities and viable mechanisms on a per country basis
 - Technical education
 - Community capacity building
 - Miner to miner exchange programs (poor ASM learns from good ASM)
 - **Pilot projects** – to test and refine approaches
 - Education and awareness built into existing rural development programs
 - Review and compare successful legal frameworks

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Who can be Involved?

- ASM communities and their local governments
- Multiple national government stakeholders
 - Mining
 - Environment
 - Health
 - Trade
 - Education
 - Treasury (federal gold reserves)
- Gold industry from bottom to top (producers, traders, buyers, nations heavily involved in gold mining)
- Jewellers and luxury goods market

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Opportunities Within the Treaty

- The treaty alone cannot fix the problem from a top down legal framework approach
 - It is a complicated poverty issue with an informal economy
- The treaty can create an enabling environment that will allow other mechanisms to operate to their maximum capacity
 - Awareness and information to set priorities: e.g. populating and updating the mercury watch database
 - Establishing a framework of goals that will allow businesses, NGO's, and local governments to effectively engage the ASM sector to enable profitable transition away from mercury
 - Fund selected pilot projects to test and refine approaches
 - Limit supply through export bans and reductions in primary mercury mining

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Reduction Scenarios

- If miners adopted mercury recycling measures
 - Fume hoods and retorts can reduce mercury consumption globally by a maximum of 25%
 - This is profitable
 - Learning how to re-activate used mercury could reduce mercury consumption by a maximum of 25%
 - This is profitable
- Elimination of whole ore amalgamation could reduce mercury consumption by 45% or more
 - Profitable but more complicated
 - More capital, more organisation, more processing sophistication

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Conclusions

- Challenges
 - Informal, extra-legal, sometimes illegal communities
 - Highly decentralized (thousands of sites; 70 countries)
 - Diversity of ores, processes, communities, policies
 - There will not be a silver bullet but can be a steady transition
- Solutions and Mechanisms
 - Technology Transfer and Innovation
 - Financial Incentives
 - Policy / Governance Innovation
 - Globally coordinated action, for both supply of mercury and demand for clean gold
- Approach: ***A Profitable Transition Away from Isolation and Mercury Use***

STRATEGIC PLANNING IN ASGM

SLIDE 1

**Artisanal and Small Scale Gold Mining
National Strategic Planning**

**Vilma Morales
(Government of Peru)**

**Ad hoc open-ended working group to prepare for the
intergovernmental negotiating committee on
mercury**

**Information session
21 October 2009**

SLIDE 2

Strategic Planning in ASGM

- Strategic Planning is one of the priority actions of the ASGM Partnership
- Objective in strategic planning is to:
 - Provide assistance to developing countries and countries with economic in transition to formalize / regulate the ASGM sector.
 - Work with governments to address financial, policy and regulatory options which can improve the ability of mining communities to achieve significant reduction of mercury use and emissions.

SLIDE 3

Current Projects

- 2 regional SAICM Quick Start Projects initiated:
 - South East Asia (focus in Cambodia and the Philippines)
 - South America (focus in Peru and Bolivia*)
- 1 regional project in Africa by Finland, USEPA and UNIDO.
 - Focus in French speaking countries.

*complementary funds for Ecuador and Colombia under finalization.

SLIDE 4

Project Objectives

- National government commitment in addressing ASGM is secured.
- Multi-stakeholder strategic plans for mercury reductions in ASGM developed, building upon on-going activities.
 - Results expected by end of 2010.
- Regional collaboration and coordination is enhanced.

SLIDE 5

Guidance Document

- A draft guidance document has been developed to support national governments in the development of a national strategic plan.
 - Aims to assist in uniting various levels of Government, miners, civil society and the public in a common mission to improve the quality of life in artisanal and small scale gold mining communities.
 - Available in English, French and Spanish at the following web address:
 - [http://www.chem.unep.ch/mercury/Sector-Specific-Information/Artisanal-small-scale-mining\(2\).htm](http://www.chem.unep.ch/mercury/Sector-Specific-Information/Artisanal-small-scale-mining(2).htm)
 - Will be revised based on experiences with these project.

SLIDE 6

Guidance document outlines a 6 step process

- STEP 1: Establishing a coordinating mechanism
- STEP 2: Gathering baseline information and developing the National Overview
- STEP 3: Setting a Goal and Objectives
- STEP 4: Formulating the Implementation Strategy
- STEP 5: Evaluation Mechanism
- STEP 6: Endorsing the National Strategic Plan

SLIDE 7

ASGM in Peru

- Mining communities located in remote rural areas
- Weak formal government presence
- Informality and in some cases conflict with dealers
- Legal uncertainty and insecurity
- Temporary situation that leads to an irrational exploitation of resources
- Messy and crowded towns without basic services or adequate housing conditions

SLIDE 8

ASGM in Peru (cont.)

- Work and housing areas superposed
- Lack of education and environmental awareness of the population
- ASGM involvement of the whole family
- Incorrect use of mercury (amalgamation and the Refog)
- Lack of technical alternatives
- Improper handling of inputs

SLIDE 9

ASGM in Peru (cont.)



SLIDE 10

Peru – National experience

- GAMA Project
- EPA Project
- PERCAN Project

SLIDE 11

GAMA Project

*Gestión Ambiental en Minería Artesanal
Agencia Suiza para la Cooperación y el Desarrollo (COSUDE)*

Objective

Improve environmental conditions of ASGM sector in the project areas

Duration

1st Phase: 2001- 2002
2nd Phase: 2003- 2005
3rd Phase : 2006- 2008

Stakeholders:

Gobierno Regional Ica
Gobierno Regional Ayacucho
Gobierno Regional Arequipa
Gobierno Regional Puno
Ente rector del Sector: MEM

SLIDE 12

Gama Project: Results

- Poverty reduction
- Employment generation
- Formalization and business development - Law No. 27,561
- Sound environmental and social management
- ASGM is part of the Peruvian mining sector
- Gama project: facilitator of the process between the ASGM sector and the MEM.

SLIDE 13

EPA Project
Reducción de Emisiones de Mercurio en el aire en la Minería de Oro Artesanal

Objective
Demonstrate technically reduction of emissions of mercury in small gold refineries.

Phases
Phase 1 - Develop a system to capture mercury
Phase 2 - Promote the use of the gold stores in Latin America

Scope
2003 - 2008 Brazil - Itaituba and Creporizao
2008 Peru (only in Phase 2) - Madre de Dios

SLIDE 14

Use of mercury in the gold mining sector

Gold shops (Amalgam from 5 to 15 to 50% Hg)

- Points for gold production
- Located in regional shopping malls and downtown centres.
- They burn the Hg-Au amalgam to remove the mercury before the sale
- Most mercury is emitted into the atmosphere and to the environment

SLIDE 15

EPA Project: results

- Mercury levels were at high levels
- Most shops did not have control of mercury emissions
- Inside most gold shops were found high levels of Hg
- Most owners said they wanted a mercury control system
- Reasons for not having one: Too expensive (U.S. \$ 4000 - \$ 25,000)
- There was no affordable technology for community
- The measured values outside burning amalgam sector yielded values exceeding the reference value of WHO of 1 mcg/m³

SLIDE 16

Performance test results

- **Mercury concentrations:**
Escape without treatment: 1580 mg/m³
After treatment: 330 mg/m³
80% capture efficiency
Cost - labor and materials: ~ U.S. \$ 450 (local construction)
- **Some pollution prevention figures:**
If each store processes 100 kg of amalgam per year (usually 5 - 40% of mercury)
Assuming an average of 10% mercury, then the emissions per store = 10 kg mercury / year
With the installation of a collector of mercury with 80% of efficiency of capture in this unique store of gold is: 10 kg / year of mercury emissions prevented.

SLIDE 17

PERCAN Project: Reforma del Sector de los recursos minerales del Perú

Objective
Provide technical assistance to the Ministry of Energy and Mines in Peru on policy issues and legal reforms related to mining and metallurgy sectors by:

- Improving compliance with environmental and health standards in the mining sector
- Decentralizing services to the regions and,
- In general, mitigating the impact of mining on local communities through training in conflict prevention, among other measures.

The consortium comprises executing Roche Limitée, Golder Associates and the Association of Canadian Community Colleges (ACCC). Websites: www.percan.ca
www.minem.gob.pe

Duration: 2003 to 2008.
CIDA Contribution: CAD U.S. \$ 9.6 million.

SLIDE 18

Final remarks

- All projects aimed at reducing emissions from mercury used in artisanal mining and its impacts on the environment (air, soil and water), as well as to strengthen management systems in the ASGM sector.
- While it achieved the enactment of Law No. 27,561 for the formalization of the ASGM sector, few miners are now legal.
- ASGM has spread throughout the whole country and the projects just addressed pilots cities which did not represent a real solution for the whole sector.
- Monitoring have been conducted in air, soil and water but has not assess has been done on health of the miners, their wives and children, as well as workers in the gold shops.
- The projects did not include the participation of the health sector, a key player in addressing this problem
- The results suggested the need for an international agreement to help the government tackle the problem of health impacts and the environment posed by mercury.

SLIDE 19



ASGM AND MERCURY

BY SUSAN EGAN KEANE AND LUDOVIC BERNAUDAT

SLIDE 1

ASGM and Mercury
The Path Forward

Susan Egan Keane, Natural Resources Defense Council
Ludovic Bernaudat, UNIDO
Open-Ended Working Group, October, 2009




SLIDE 2

What is needed to reduce Hg in ASGM?

- Restrict supply and availability of Hg
 - Provide a price signal to miners to conserve
- Formalize/ integrate miners
 - Enables programs to legally reach miners with information/ technologies
 - Gives miners access to means to increase productivity and profitability while decreasing mercury use and releases
- Develop successful models of transition to low / non-mercury techniques
- Financial and technical support for scaling up

SLIDE 3

Next Steps

- Reduce availability and increase price of mercury as soon as possible
- Provide information and training on alternative methods for miners
- Expand awareness-raising and pilot projects in key countries, as directed by UNEP GC Decision 25/5
 - Projects must be started soon in order for results to inform negotiations
- UNEP Global Mercury Partnership is one vehicle for carrying out projects

SLIDE 4

ASGM Partnership

- Overall goal: **50% reduction in mercury use and emissions by 2017**
- Identified four priority areas for pilot/ demonstration projects in 2008 business plan
- More substantial financial support critically needed to further work in each of these areas

SLIDE 5

1. Support government efforts in setting national objectives/ reduction targets for mercury use in ASGM


- Projects already initiated in three regions
 - Two “regional strategic plan” projects funded by SAICM QSP
 - South-East Asia (focused on Cambodia and the Philippines)
 - South America (focused on Peru and Bolivia)
 - West Africa regional mercury project, led by the US and UNIDO, with funds from Finnish government
- These efforts will identify strategic, high impact projects that will need support

SLIDE 6

2. Eliminate the worst practices:

- whole-ore mercury amalgamation
- mercury/ cyanidation combination

Reduce Hg use and emissions



Copper plate amalgamation – the worst case scenario
M. Veiga, Venezuela, 2003

SLIDE 7

3. Promote awareness and adoption of cleaner ASGM practices and technologies




Panning directly in river increases siltation, and destroys river banks
UNIDO, Madagascar, 2008

Simple and cheap retort easy to procure locally
UNIDO-GMP, Laos, 2008

SLIDE 8

4. Explore innovative market-based approaches

- Establish gold brand with price premium for adhering to good social and environmental practices
 - E.g., Oro Verde
- Alliance for Responsible Mining (ARM) and Fairtrade Labelling Organization (FLO) currently developing Fair-Mined/ Fair Traded "Standard Zero" for ASM gold, silver and platinum

SLIDE 9


Immediate Partnership Priorities

- Documentation of existing efforts on legalization and formalization,
- Global knowledge base on ASGM,
- Technical manual of existing technologies and practices,
- Feedback on mercury requirements for ARM-FLO gold standard.


SLIDE 10

UNEP Global Mercury Partnership ASGM Area

For information, contact the area leads:



Susan Keane, NRDC, skeane@nrdc.org



Ludovic Bernaudat, L.Bernaudat@unido.org

Or visit the UNEP website:
<http://www.chem.unep.ch/MERCURY/Sector-Specific-Information/Artisanal-small-scale-mining.htm>

III. Products and wastes

9. As noted above, the Governing Council of UNEP in paragraph 34 of its decision 25/5 requested the Executive Director of UNEP to continue and enhance mercury-related work in a number of areas. Those areas include reducing mercury use in products and processes and raising awareness of mercury-free alternatives.

10. On Thursday, 22 October 2009, the working group heard the following two presentations on mercury-containing products and waste:

- (a) Overview of products (Mr. David Lennett, Natural Resources Defense Council);
- (b) Waste issues (Mr. Ibrahim Shafii, secretariat of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal).

11. The following key points emerged from the information session:

- (a) For most mercury-containing products, alternatives are known and in use. For most processes using mercury, alternative technologies are available;
- (b) When using or accessing alternatives, issues of production capacity, quality control and cost may still arise in some parts of the world;
- (c) The following areas of concern, some of which are inter-related, could benefit from the legally-binding instrument:
 - (i) Clear legal and policy direction with timetables, providing critical market signals to manufacturers;
 - (ii) Universal participation, with no benefits provided without obligations;
 - (iii) Data collection and reporting to monitor progress ;
 - (iv) Improved opportunities for global coordination and collaboration on issues such as standard setting;
 - (v) Improved opportunities for technical assistance, third-party testing, etc.;
- (d) Mercury-containing wastes tend to occur at low levels within a broad range of domestic and municipal settings. Policies aimed at the reduction of mercury in the products that form the waste stream may be the most effective and strategic means to control mercury-containing wastes;
- (e) The Basel Convention technical guidelines on the environmentally sound management of mercury wastes are available to assist Governments to achieve environmentally sound management of mercury wastes.

12. A detailed summary of the discussion during the meeting of the working group is set out in the report of the meeting, which is reproduced for the first session of the intergovernmental negotiating committee in document UNEP(DTIE)/Hg/INC.1/INF/1.

MERCURY STORAGE-SUPPLY PARTNERSHIP AND RELATED INITIATIVES

BY MICHAEL BENDER

SLIDE 1

Mercury Storage-Supply Partnership and Related Initiatives



Michael Bender

Mercury Policy Project / Zero Mercury Working Group

www.mercurypolicy.org / www.zeromercury.org

UNEP Open Ended Working Group Meeting

Bangkok, Thailand

October 2009



Mercury Policy Project

SLIDE 2

Presentation Overview

- Overview
- New Partnership Area
- Regional, Country Initiatives
- Next Steps
- Summary



Mercury Fountain in Barcelona, Spain



Mercury Policy Project

SLIDE 3

Global Hg supply reductions & storage

- More cost effective to curtail production, sequester mercury before it is haphazardly dispersed to millions of users and subsequently released to the environment
- INC to develop provisions to reduce the supply of mercury and enhance the capacity for its environmentally sound storage in its overall approach to mercury (paragraph 27.b of Decision 25/5).
- INC deliberations expected to:
 - Address trade related issues.
 - Develop effective universal global coordination, action, and enforcement mechanisms.
 - Assist in developing storage capacity in certain regions.



Mercury Policy Project

SLIDE 4

Creation of new partnership area on supply and storage

- Initiated during Partnership Advisory Group in April 2009:
 - Purpose is to enhance the on-going work in these areas, identified as a priority in GC Decision 25/5, paragraph 34.
 - Zero Mercury Working Group agreed to serve as interim chair with understanding that government lead or co-lead would be identified.
- Proposed business plan (updated version of earlier UNEP draft) drafted in consultation with stakeholders.
 - Anticipates limited life of partnership in deference to anticipated treaty obligations and governance structure.
 - Therefore, focus on near term priority activities.



Mercury Policy Project

SLIDE 5

Draft business plan

Partnership goal:

- reduce mercury supply to 50% by 2013 (from 2005 baseline)
- need 600 ton mercury reduction beyond EU/USA export bans.



An Open Mercury Cell Chlor Alkali Plant

Source: Center for Science and the Environment, New Delhi, "Down to Earth"

Reduction opportunities include:

- additional mercury export restrictions
- storage of chlor-alkali mercury, and
- less primary mercury mining.



Mercury Policy Project

SLIDE 6

Regional, country initiatives

- A number of countries/regions have adopted legislation or enacted regulatory measures to reduce mercury supply from being traded.
 - EU Hg export ban by 2011, phase out mining.
 - U.S. Hg export ban by 2013.
 - Hg export bans in Scandinavian countries.
- The EU and US are taking steps to store Hg.
- Not all countries need permanent Hg storage. Hg storage is most important for those countries/regions that have much excess mercury supply.



Mercury Policy Project

SLIDE 7

Regional mercury storage projects

- Storage projects in the Asia-Pacific (AP) and the Latin America and Caribbean regions (LAC) aimed at reducing excess mercury supply.
- Meetings co-sponsored by UNEP & ZMWG, supported by Japan, Norway.
- Initiated review options for the storage of excess mercury in these regions with identified supply issues.
- Storage option preferable to re-entry of elemental mercury into the global marketplace.

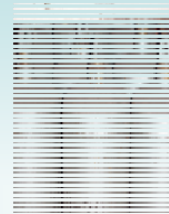


Mercury
Policy Project

SLIDE 8

Regional Hg storage initiatives, Cont.

- Project inception workshops took place in Thailand for AP in March and in Uruguay for LAC in April 2009.
- Regional mercury trade flow reports presented.
- Executive Committees for the project created in both regions, comprised of governments and NGOs.
- Options Analysis and Feasibility Study commissioned for long term storage of mercury in AP and expected to start soon in LAC.



Mercury
Policy Project

SLIDE 9

Asia-Pacific regional initiative

- Recognition that improved Hg storage should contribute to Hg demand reduction.
- "Polluter pays principle" guiding principle.
- Criteria of most concern in management options:
 - Social and political acceptability (sustained leadership) of the infrastructure
 - Public health, safety and environmental impact
 - Preference for a centralized facility
 - Operating and maintenance costs.
- Global treaty embodying storage will ensure consistent & sustained national government policies.



Mercury
Policy Project

SLIDE 10

LAC regional initiative

- Recognition of top priority to address surplus Hg from decommissioned chlor alkali plants and mining.
- Identified need to come up with extraction technologies to convert Hg compounds into elemental form.
 - Proposal also to address elemental mercury as a waste with disposal similar to other hazardous waste.
- Expressed need to deal with end of life Hg products (such as from health care) and the need to establish interim national storage facilities.
- Recognition of importance to build public support through public hearings during the environmental impact assessment of a facility.



Mercury
Policy Project

SLIDE 11

Next steps on supply and storage

- Encourage further progress on the two regional storage projects and Kyrgyzstan primary mining project already underway.
- Collaborate on funding opportunities as they arise.
- Revise draft business plan based on input received.
- Invite potential partners to join the new partnership area and identify a government lead or co-lead.



Mercury
Policy Project

SLIDE 12

Summary

- Investing in supply, trade and storage initiatives is more efficient and effective than trying to control mercury release.
- Storage options for large mercury quantities should be accessible globally.
 - Must be accompanied by regional and/or national legal and regulatory measures.
 - The US and EU have adopted policies to phase out exports, store surplus mercury.
 - There is a need for assistance in developing storage capacity in certain regions.
- Not all countries need permanent mercury storage. Storage is most important for those countries/regions that have excess mercury supply.



Mercury
Policy Project

THE TRANSITION TO MERCURY FREE PRODUCTS

By David Lennett

SLIDE 1

The Transition to Mercury Free Products

David Lennett
Natural Resources Defense Council &
Zero Mercury Working Group
OEWG – Bangkok
October 22, 2009

SLIDE 2

Summary of Presentation

- ▶ Global Product Mercury Demand Status Quo and Partnership Goals
- ▶ Findings of UNEP Report Prepared for OEWG 2
- ▶ Closer Look at 3 Product Categories
 - Switches
 - Thermometers
 - Button cell batteries
- ▶ Conclusions for a Successful Transition

SLIDE 3

Product Category	2005 Global Demand (Metric Tons)	2015 UNEP Partnership Goal (Metric Tons)
Batteries	300–600	Less than 50
Electronic Devices	150–350	Less than 50
Measuring and Control Devices	150–350	Less than 50
Lighting	100–150	Less than 100
Dental	240–300	Less than 230
Other (lab, cultural uses, etc)	30–60	Less than 30

Global Product Mercury Demand Status Quo and Partnership Goals >>

SLIDE 4

2008 UNEP Products Report Findings


- ▶ Definition of Transition Success
 - More than 50% of governments indicated non-mercury substitutes available, commonly used, and no negative consequences; and
 - Two or more governments indicated no mercury use for this product in 2009 or before

Ref: UNEP(DTIE)/Hg/OEWG2/7/Add.1

SLIDE 5

Transition Success Demonstrated


- ▶ Transition Success Demonstrated for
 - Switches/relays
 - Thermometers
 - Sphygmomanometers
 - Thermostats
 - Batteries (other than button cells)
 - HID Auto Discharge Lamps
- ▶ Note: Transition success does not mean there are no challenges ahead – see discussion below



SLIDE 6

Alternatives Available But Obstacles Remain

- Button cell batteries
- Dental amalgam
- Lamps of various types



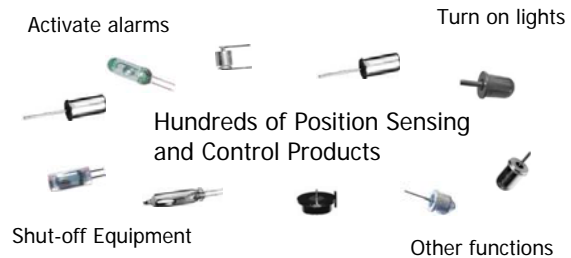
SLIDE 7

Switches

- ▶ Four major types of switches
 - **Tilt** (activates light or equipment upon change in position) (example: **car trunk lights**)
 - **Float** (activates alarm or equipment upon change in liquid level) (example: **bilge pump**)
 - **Temperature** (activates heating or cooling equipment upon change in temperature) (example: **refrigeration equipment**)
 - **Pressure** (uses pressure sensor to activate a mercury switch) (example: various **industrial applications**)

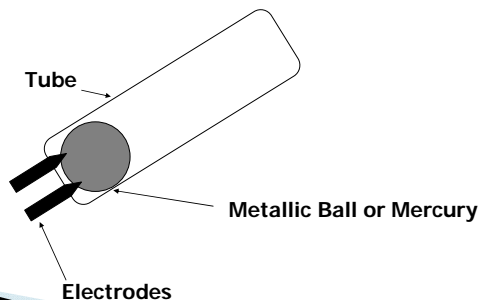
SLIDE 8

Tilt Switches



SLIDE 9

Tilt Switch In On Position



SLIDE 10

Examples of Non-Mercury Switches

- ▶ Metallic ball switches
- ▶ Solid-state switches
- ▶ Electrolytic fluid switches (alternative conductive liquid)
- ▶ Optical sensor float switches
- ▶ Variety of products available at comparable cost, and comparable or better performance

SLIDE 11

Mercury Switch Legislation

- ▶ Several European countries banned sale in 1990s
- ▶ EU RoHS Directive adopted in 2003 and effective in July 2006 (scope to expand and likely include medical and monitoring/control instruments after 2010)
- ▶ 11 states with more than 30% of USA population have enacted sales bans, effectively driving many mercury switches off the USA market
- ▶ Studies in USA confirm non-mercury alternatives available for most applications
- ▶ EU Directive triggering RoHS type legislative initiatives in other countries; industry rapidly moving to mercury free alternatives

SLIDE 12

Thermometers

- ▶ Used in variety of ways
 - Food handling and processing
 - Ambient air measurements
 - Laboratories
 - Industrial applications
 - Fever measurements



- ▶ Vast majority of mercury use and focus here is fever thermometers

SLIDE 13

Alternative Fever Thermometers

- ▶ Non-mercury liquid (i.e., alcohol, galinstan – mixture of gallium, indium, and tin)
- ▶ Digital (powered by variety of battery types or solar)
- ▶ For list of example products, see http://www.sustainablehospitals.org/cgi-bin/DB_Report.cgi?px=W&rpt=Cat&id=15



SLIDE 14

Fever Thermometer Legislation

- ▶ Some EU countries ban sale of mercury fever thermometers in 1990s
- ▶ EU adopts ban on market introduction of fever thermometers in 2007, effective April 2009
- ▶ HCWH reports 28 states in USA have prohibitions or restrictions on sale of fever thermometers, and most USA retail outlets refuse to carry them
- ▶ HCWH reports sales ban or phase out in health care sector recently adopted by –
 - Argentina
 - Uruguay
 - Philippines

SLIDE 15

Transition Status for Fever Thermometers

- ▶ No negative effects where legislation in place, as UNEP report found
- ▶ However, issues of cost, availability and quality control have been raised in some parts of developing world
- ▶ Experience indicates these issues can be solved, with collaboration by key players and appropriate legal framework
 - See information on WHO/HCWH global initiative at <http://www.mercuryfreehealthcare.org/about.htm>

SLIDE 16

Button Cell Batteries

- ▶ Three types of mercury-containing button cells (mercury used to inhibit gas formation which can cause battery leakage)*
 - **Zinc air** used primarily in **hearing aids**
 - **Silver oxide** used primarily in **watches and cameras**
 - **Alkaline manganese** used in variety of products, such as **digital thermometers, remote controls, and toys**
- * Some trade data indicate mercury oxide button cells are still manufactured, but these data have not been confirmed and manufacture would be illegal in many relevant countries



SLIDE 17

Manufacturers of Non-Mercury Alternatives

- ▶ **Zinc Air**
 - Energizer, Rayovac
- ▶ **Silver Oxide**
 - Sony, Seiko, Hitachi, VARTA Microbattery, Chung Pak, Pak Ko, New Leader
- ▶ **Alkaline Manganese**
 - New Leader, Leopro Battery, Chung Pak, Taishan Battery; silver oxide batteries can generally substitute as well
- ▶ Lithium batteries can sometimes be used as substitutes, particularly in high energy demand electronics (cameras, games)

SLIDE 18

Battery Transition Status

- ▶ Mercury free technology in use by variety of manufacturers
- ▶ USA manufacturers committed to mercury free production by 2011 in response to state legislation
- ▶ Recent reports in USA find sufficient mercury free alternatives available, except for certain very low volume silver oxide models
- ▶ However, UNEP report finds non-mercury global production capacity now unable to meet worldwide demand

SLIDE 19

Conclusions

- ▶ For most mercury products, the alternative technology solution is known, and in use
- ▶ Issues of production capacity, quality control, and cost may still arise in some parts of the world
 - Government mercury phase out laws and policies frequently trigger manufacturer involvement and expedited production shifts
 - Production increases can minimize price disparities
 - Remaining cost differential fails to reflect legacy costs for future generations and/or increased cost of handling/waste management

SLIDE 20

Conclusions

- ▶ Inter-related issues of production capacity, cost, and quality control would benefit from mercury product treaty coverage
 - Clear legal and policy direction with timetables, providing critical market signals to manufacturers
 - Universal participation – no free riders
 - Data collection and transparent reporting to monitor progress
 - Improved opportunities for global coordination and collaboration on issues like standard setting
 - Improved opportunities for technical assistance, third-party testing, etc

MERCURY WASTE

By Ibrahim Shafii

SLIDE 1

Mercury Waste

Ibrahim Shafii
Secretariat of the Basel Convention


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 International Environment House
 15 Chemin des Anémones
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 E-mail: ibrahim.shafii@unep.ch



SLIDE 2

Contents of the Presentation


- The mercury waste issue
- Overview of the Basel Convention
- Development of the Technical Guidelines on Environmentally Sound Management of mercury waste



SLIDE 3

The mercury waste issue

- Mercury poses special waste management challenges
 - it cannot be destroyed
 - only contained in form so that it does not circulate in the environment.
- Products containing mercury enter the waste streams from various sources such as municipal, medical, and industrial waste
 - getting mercury out of the waste stream may be most effective way to manage such waste.
- Inadequate or improper disposal of mercury containing waste can result in leakage to the environment.
- Waste containing mercury needs to be managed in an environmentally sound manner.



SLIDE 4

The Basel Convention provides a framework to manage waste containing mercury.

- Stipulates that any transboundary movement of wastes (export, import, or transit) is permitted only when the movement itself and the disposal of the concerned hazardous or other wastes are environmentally sound.
- Defines wastes as “substances or objects which are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of national law”.
- Includes a general obligation for parties to take appropriate measures to ensure the generation of hazardous wastes and other wastes within it is reduced to a minimum, taking into account social, technological and economic aspects.




SLIDE 5

Environmentally Sound Management

“taking all practicable steps to ensure that hazardous wastes or other wastes are managed in a manner which will protect human health and the environment against the adverse effects which may result from such wastes”

- ESM includes minimizing the generation of such wastes, reducing transboundary movements, improving treatment and disposal, and ensuring such wastes are handled as close as possible to where they were generated




SLIDE 6

Mercury waste is classified in the Basel Convention

Relevant Annex I
(Categories of wastes to be controlled)

- Y1 – Clinical wastes from medical care in hospitals, medical centres and clinics
- Y17 – Waste resulting from surface treatment of metals and plastics
- Y18 – Residues arising from industrial waste disposal operations
- Y29 – Mercury; mercury compounds



SLIDE 7

Classification of mercury waste in the Basel Convention

Annex VIII (List A): hazardous wastes when containing annex III characteristics

A1010 – Metal wastes and waste consisting of alloys of ...mercury

•**A1030** – Wastes having as constituents or contaminants any of the following....mercury; mercury compounds

•**A1170** – Unsorted waste batteries (when containing Hg)

•**A1180** – Waste electrical and electronic assemblies or scrap containing e.g. Mercury-switches; glass from CRTs (containing Hg)

•**A2010** – Glass waste from CRTs and other activated glasses



SLIDE 8

Classification of mercury waste in the Basel Convention

Annex VIII (List A)(contd)

•**A4020** – Clinical and related wastes

•**A4100** – Wastes from industrial pollution control devices

•**A4140** – Waste consisting of or containing off-specification or outdated chemicals corresponding to Annex I categories



SLIDE 9

The Basel Convention and other chemical related MEAs

- Other chemical conventions invoke the Basel Convention for waste management rather than developing separate regimes
 - Stockholm Convention on POPs Article 6
 - Montreal Protocol, MOP Decision V/24
- Similar approach could be followed for mercury.



SLIDE 10

Development of technical guidelines on ESM of mercury waste

- Guidelines aimed at assisting Parties in achieving ESM of mercury waste under development jointly with UNEP.
- Follow Decision VIII/33 of the COP8 to the Basel Convention.
- First draft presented in September 2007 to the OEWG6 meeting of the Basel Convention.
- Expected to be finalized before negotiations of the mercury LBI completed.



SLIDE 11

Contents of technical guidelines

- Guidance on ESM criteria and practices of mercury waste
- Legislative and regulatory framework
- Application for mercury waste prevention and minimization
- Identification and inventories
- Handling, collection, storage (interim) and transportation of mercury waste
- Treatment of mercury waste and recovery of mercury waste
- Long term storage and disposal of mercury waste
- Remediation of sites contaminated with mercury
- Public awareness and participation

Draft document available at:
www.basel.int/techmatters/mercury/guidelines/040409.doc



SLIDE 12

Status of the technical guidelines

- COP9 (June 2008):
 - Decision IX/15 agreed for work to continue on the guidelines;
 - Established an Intersessional Working Group to further develop the guidelines, Japan agreed to act as lead country until Jan. 2010.
- 4th draft currently available and will be presented to OEWG7 in May 2010 and COP10 in Oct. 2011.
- Guidelines are being pilot tested in capacity building projects:
 - Basel Convention supported projects in Argentina, Costa Rica and Uruguay (USA funding).
 - UNEP supported projects in Burkina Faso, Cambodia, Chile, Pakistan, and the Philippines (Norway funding). Results expected late 2009 /early 2010.



SLIDE 13

Conclusions

- Mercury containing waste is highly dispersive and needs to be managed in an environmentally sound manner.
- The Basel Convention provides a framework for managing waste containing mercury
 - The Technical Guidelines on mercury are a tool available to assist governments achieve ESM of mercury waste.
- Policies aimed at the reduction of mercury in products may be the most effective means to control mercury in waste.

