



Report on the International Mercury Conference - How to reduce mercury supply and demand Brussels, 26-27 October 2006

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This report of the conference aims at reflecting the presentations made, and the views expressed by speakers and other participants, and it does not seek to indicate any conclusive agreement between participants. The report is to be considered the host's summary and it has not been reviewed by the speakers or other participants prior to its publication. Deviations, if any, in the report from actual expressions made at the conference are incidental and unintentional.

1. INTRODUCTION

International outreach on the global mercury issue is a priority in the European Commission's comprehensive 2005 Community Strategy Concerning Mercury. To highlight the international dimension, the Commission decided to organise this event to promote global dialogue among the stakeholders.

In his opening statement, Director General of the European Commission's Directorate General Environment, PETER CARL expressed that he was very pleased to have such a broad range of speakers and participants from all over the world present at the conference. He felt that this showed the interest and importance of working at global level to solve the mercury problem. Peter Carl introduced the objectives and background of the conference as follows:

"We would like this conference to be an opportunity for open and informal discussions on the global mercury problem, and to facilitate contacts between all the parties concerned: policy-makers, industry and NGO representatives from around the world. The conference focuses on how to reduce trade, supply and demand of mercury. There are three main issues to be discussed:

Session 1: Why do we need global action now? Why are global efforts needed to reduce demand for and supply of mercury? What are the adverse health and environmental impacts globally, and what are the main sources of the problem? And what do we actually know about the global demand/supply situation for mercury?

Session 2: Challenges and obstacles. What are the key challenges and obstacles when addressing mercury? What is the socio-economic significance of mercury for producers, recyclers and suppliers? What are the challenges in reducing demand and using substitutes in small-scale gold mining and other fields in the developing world?

Session 3: Steps to reduce demand and supply. How can sufficient progress be made globally in reducing demand for and supply of mercury using innovative, socially acceptable and cost-effective solutions? What time-scale should we adopt? What are the substitution and reduction options, and how can we solve the socio-economic challenges? And what are the regulatory and management solutions nationally and internationally?"

Peter Carl also stated that: "The purpose of the conference is to stimulate a forum for discussion of the global mercury problem by all the parties concerned and to pave the way towards better cooperation".

The programme of the conference is attached as Annex 1 to this report of the conference. The individual presentations can be viewed at the conference homepage at http://ec.europa.eu/environment/chemicals/mercury/conf_prog.htm

2. CHAIRMAN'S SUMMARY

In his conclusive remarks for the conference Timo Makela of DG Environment, The European Commission, summarised the issues raised at the conference as follows:

- "The health and environmental risks related to the releases and exposures of mercury are well known and understood and priority should be given to concrete measures for reducing these risks.
- Measures are needed at local, national, regional and global level. Both bottom-up action and top-down measures are needed and they will work most efficiently together.
- The actions to reduce risks related to the use of mercury need to be taken internationally as the problem is transboundary due to long-range pollution via the atmosphere, the international trade of mercury, as well as the international character of the affected fishery and fishing industry.

- Urgent action is needed to reduce both supply and demand of mercury. Export restrictions are a more efficient way of reducing international trade of mercury than import restrictions.
- The international action should focus, among other things, on reducing risks related to small-scale and artisanal gold mining, on the reduction of international trade of mercury and on the reduction of releases of mercury from the coal combustion.
- It has been and it is possible to reduce the use, supply and demand of mercury and risks related to the use of mercury.
- A phase-out of the use of mercury in the chlor-alkali industry is possible and should be encouraged. In parallel the surpluses that will become available needs to be handled in a safe and sustainable way.
- Regional strategies, actions and initiatives such as the European Community Strategy Concerning Mercury and the proposed export ban are an important and useful way to promote global action and agreements. Also Indian experience in sensitising the health sector, the Russian ban of the use of mercury in precious metals processing, Brazilian efforts to enforce mercury legislation and the Spanish initiative to establish the mercury institute in the Almadén region are positive signs of national and regional action. Further regional initiatives and action for reducing the use, supply and demand of mercury are encouraged.
- Immediate priority should be given to reduce the use of mercury in the artisanal and small-scale gold mining and risks related to this. The donor countries and organisations are urged to give much higher priority to the assistance programmes for this. The objective should be to enhance the assistance programmes into a new level for covering a major part of such gold mining.
- There is also an urgent need to step up efforts to increase the global information on and awareness of releases and risks related to the use of mercury. There is also a need to disseminate and exchange knowledge of alternative mercury free technologies.
- There is too little information on the use of mercury in military applications. The military sector needs to accept the full responsibility in reducing the use, releases and risks of mercury in military applications.
- The UNEP Mercury Programme and the forthcoming UNEP Governing Council meeting in February 2007 are the key international frameworks for achieving further international action in reducing the use, releases, trade and risks related to mercury. An international binding agreement should be pursued urgently. Other international conventions and initiatives such as the Rotterdam Convention, the Basel Convention and the UNIDO and ILO initiatives are also important and useful frameworks to advance international action on mercury."

3. SUMMARIES OF PRESENTATIONS

In the following sections, some additional detail is given on these issues based on short summaries of the individual presentations. Note that while presentations are arranged

under some main topics below, many presentations touched on several main topics. As mentioned, the individual presentations can be viewed at the conference homepage at http://ec.europa.eu/environment/chemicals/mercury/conf_prog.htm

3.1. Motivation for reducing risks from mercury pollution globally

Peter Carl, Director General of the European Commission's Directorate General Environment, outlined the main elements of the mercury problem:

- Mercury and its compounds are highly toxic to humans, ecosystems and wildlife.
- Of particular concern are the effects on the nervous system as it develops, especially in the pre-natal stage (primarily via the mother's food intake). For example, several percent of European population are close to or exceeding thresholds for levels considered safe.
- Elemental mercury is transformed from elemental mercury from natural and human sources to one of the most toxic forms, methylmercury, which in turn bio-accumulates in organisms and become concentrated in food chains, particularly in marine foods.
- Impacts on the environment are observed, e.g. microbiological activity of soil.
- Mercury is a transboundary pollutant - local emissions can travel globally and be deposited thousands of kilometres from the original source.
- Mercury and mercury containing products are traded globally - another mechanism of global transport.

The current Presidency of the European Union, Finland, represented by Lea Kauppi of the Finnish Environment Institute, concluded the conference's opening session. Ms. Kauppi recalled that the problems mercury is causing had already been discovered in Finland in the 1960s. However, Finland has not been able to solve these problems alone, as today more than 90% of the mercury in the Finnish lakes comes via atmospheric transport from sources abroad. Mercury pollution can be observed all around the globe, also far away from pollution sources, for example in the Arctic. In large regions the use of fish for human food has been restricted due to high fish mercury content - and as a matter of fact, mercury is threatening fish as a global food source, Ms. Kauppi stated. Mercury pollution is not limited to the developed countries and the Arctic; on the contrary it is a growing problem in developing countries and an uneven burden of risk for the health and environment is thus faced in poor countries. According to Ms. Kauppi, it is clear that national measures are not sufficient for controlling products and metal mercury on the international markets. Furthermore, measures to control mercury pollution often show results with a delay of one or more decades; this was found in the Nordic countries. Due to the various complex factors involved, the European Union regards a legally binding agreement as the best way forward in abating the global mercury pollution.

Global cycling and adverse impacts of mercury

More information on the basic characteristics of mercury as a global pollutant was given. The growing interest in the mercury problem over the years was summarised - and no less relevant - the motivation for taking mercury as an environmental problem seriously. The speaker felt that a lot of knowledge was still missing - for example for the developing world - and underlined that while considering environmental releases from intentional mercury use, large mercury mobilization sources like coal combustion should have equal attention. The presentation was made by: Milena Horvat of the Jozef Stefan Institute, Slovenia.

Newest research findings on mercury's health effects

One of the main forces behind the important Faroe studies¹ of methyl mercury toxicity to humans explained how mercury affects the brain, especially during its development, using examples from the fatal Minemata catastrophe in Japan more than 50 years ago, and the more subtle and much more widespread developmental effects caused by very low exposures to methyl mercury from marine diets. Existing studies of these effects show varying results, probably partially caused by other beneficial effects of marine nutrients, yet they indicate as a whole that toxic effects take place at very low exposures. The most recent results from the Faroe studies indicate that effects can be observed at even lower methylmercury exposures than previously found, and it was illustrated how, for mercury and its compounds, the observed adverse effect levels had become lower and lower the more they were studied over the years. So, the speaker concluded, methyl mercury is not just toxic, it is very toxic. The presentation was made by: Mr. Philippe Grandjean, Professor, University of Southern Denmark and Harvard University, USA.

Taking stock of the global demand and supply of mercury

The results of global analyses of mercury metal trade was described, which showed that mercury is traded worldwide. Presently, much mercury is traded from - or via - Europe and to a lesser extent North America, to end stations in primarily Asia and South America. The dominant sources of virgin mercury from current dedicated mercury mining are China, primarily for domestic use and manufacture of products, and Kyrgyzstan, for export. Other sources of mercury to the world market include by-product mercury from non-ferrous metal extraction (zinc, lead, copper mining, etc.) and natural gas cleaning, industrial stocks from, for instance, chlor-alkali industry, other stocks, for example from former defence purposes, and finally post-consumer recycling of mercury from product uses. China is currently the largest producer and consumer of elemental mercury. Kyrgyzstan, the other major remaining producer, has worked at its maximum capacity during the last years. In spite of public subsidies to mercury production and recycling and other market distorting factors, the speaker illustrated that a supply/price relationship was actually in effect. The

¹ Grandjean, P., Weihe, P., White, R.F., Deves, F., Araki, S., Yokoyama, K., Murata, K., Sorensen, N., Dahl, R. and Jorgensen, P.J. (1997): Cognitive deficit in 7-year-old children with prenatal exposure to methylmercury. *Neurotoxicology and Teratology* 1997, 20, 1., and newer updates.

presentation was made by: Mr. Peter Maxson, Director Concorde East/West, Brussels, Belgium.

3.2. Efforts to reduce mercury demand

Efforts to reduce demand and manage intentional mercury use were addressed at many levels at the conference: From local efforts in the health sector in India and Brazil and small-scale gold mining communities in Indonesia, over national efforts in for example China, Brazil and USA and regional efforts in South America and the European Union, to current global efforts described by, for example, UNEP Chemicals, and concepts for an international binding agreement on mercury proposed by the global mercury NGO network "Zero Mercury Working group".

Ways forward at local level in gold mining communities

An implementing NGO of the GEF/UNDP/UNIDO Global Mercury Project described the realities of small-scale gold mining in a mining community in Indonesia, and how an initiated awareness project motivated miners, gold shop owners, miners' wives, local government, and the community population at large, to reduce mercury use and minimize occupational exposures and mercury releases to the surroundings. They educated miners and gold shop keepers on the hazards of mercury and conducted hands-on demonstrations of techniques for process optimization requiring less mercury including use of simple retorts which recycle most of the mercury instead of releasing it. Such broad-spectre awareness raising campaigns are considered an indispensable component in any efforts to target mercury reductions in small-scale gold mining communities. The presentation was made by: Mr. Bardolf Paul, Vice Chairman, Susila Dharma International.

Small-scale gold mining - magnitude and challenges worldwide

A representative of the GEF/UNDP/UNIDO Global Mercury Project management at the conference outlined the global magnitude of the small-scale mining problems related to mercury use. At least 100 million people in over 55 countries in the developing world are somehow engaged in small-scale gold mining and mercury is used in most of them. Thus, perhaps 100 million people are indirectly involved and potentially exposed to mercury. Of these, 10-15 million are miners, including at least 4.5 million women and 1 million children. An estimated 20-30% of the gold produced annually and globally is produced in small-scale gold mining operations. The activity is considered to be growing globally, it is informal, sometimes illegal, with a low level of organization, and is therefore resource demanding to address in the field. The Global Mercury Project supports the concept of reducing mercury supply to keep up high prices and thereby create motivation for better mercury household routines and reduced releases during the extraction and at the gold shops. The representative of the GEF/UNDP/UNIDO Global Mercury Project management emphasized however, that this cannot by any means stand alone and needed to be backed up by substantial awareness raising activities at all levels: To individual miners and their families, to local and national government, and to the global policy community which would need to secure the availability of the necessary funding and technical

assistance. Considering the vast magnitude of the problem, substantial economical assistance is clearly needed. The supply lines of mercury to miners are often complex and associated with other informal business ties, and the individual, generally poor miners, whose livelihoods would be hit hard if mercury prices were up and they had not been educated in how to reduce their mercury use by simple, available techniques. The Global Mercury Project partners consider a 50% reduction of mercury demand in small-scale gold mining globally to be a realistic goal within a 10 year time span. This can be attained by eliminating whole ore amalgamation, by using retorts (for mercury recycling) and by using mercury-free techniques where this is possible. But further commitment and support is necessary and education is everything - both ways - bottom-up, top-down. A "fair trade" label on gold produced under improved environmental conditions is an option investigated, but it is more complex than for example agricultural products. The presentation was made by: Kevin Telmer, Associate Professor, University of Victoria, Canada, GEF/UNDP/UNIDO Global Mercury Project.

Mercury - a Chinese perspective

A representative of the State Environmental Protection Agency (SEPA), Peoples Republic of China, outlined the current demand and supply situation for mercury in China and listed national regulatory and other measures addressing mercury demand, supply and releases. Many significant steps had been taken to address mercury consumption, including for example prohibition of mercury use in small-scale gold mining, programmes to promote substitution in several important sectors and introduction of national import restrictions under which import of mercury to China requires a special licence from SEPA. SEPA was investigating substitution options for different sectors, for example in a demo project aimed at reducing mercury waste in the hospital sector. However, substitution was not attainable in the short term in all sectors. An example of this is use of a mercury compound as a catalyst in the synthesis of precursors to VCM, an intermediate chemical for PVC production, - one of the largest consumers of mercury in the country. Technical mercury-free alternatives exist but the current demand for PVC in the booming construction works in China makes all available PVC production capacity needed. Mercury production has increased slightly over recent years due to higher domestic demand. Due to changes in the economic system in China, precise mercury consumption data for all relevant sectors are not available, and this is considered a major data gap. Future work on mercury in China would include analysis of production, use and consumption, improved recycling of mercury, and following the international debate on mercury issues, among others. The SEPA representative noted that despite the observed reductions of mercury use in developed countries, the mercury demand in developing countries persists with consequent releases to the environment. The SEPA representative proposed that the relevant international trade flows for mercury and its compounds be investigated. The SEPA representative also informed that projects on mercury reductions from coal combustion had been performed in cooperation with USA and Canada, among others. The presentation was made by: Liu Chunxin, Environmental Protection, State Environmental Protection Administration, Beijing, Peoples Republic of China.

Mercury – a Brazilian perspective

A representative of the Ministry of Environment, Brazil, mentioned that an Amazonian regional action plan is under development in the OTCA, The Amazon Cooperation Treaty, to promote coordinated efforts targeting mercury demand in small-scale gold mining. Also within the regional cooperation body "Mercosul", an ad hoc group has been established to promote regional cooperation in substitution of mercury uses. Mercury use in small-scale gold mining in Brazil requires individual licences issued by the authorities and so does any production, import and trade of mercury. It is the experience however, that the enforcement of the restrictions is difficult and resource-demanding because of the informal character of the small-scale mining activities and the vast and remote land areas it is spread over. The speaker gave an overview of regulatory and other measures targeting mercury in Brazil. Regulation was in place for, among others, small-scale gold mining, mercury containing pesticides, the chlor-alkali sector, mercury containing medicine (banned), hygiene products and cosmetics, and new mercury manometer. Brazil's reported mercury imports have been more than halved over the last few years. A working group is considering mercury reductions in the lamp sector and is working with possibilities for reducing mercury content in fluorescent lamps, substitution of mercury, and waste management. A demonstration project on substitution of mercury in the hospital sector has been conducted in 14 Sao Paulo hospitals and experience gained is expected to spread to other hospitals in Brazil. Brazil considers further restrictions in the availability and use of mercury and awareness campaigns as major focus points for international cooperation. The presentation was made by: Ms. Sérgio de Souza Oliveira, Ministry of the Environment, Brazil.

Challenges and lessons learned on mercury substitution in India

A representative of the Toxics Link, an Indian non-governmental organization, described the organization's programme investigating and implementing substitution of mercury-containing thermometers, blood pressure gauges and other measuring devices in selected hospitals in Delhi, India. It was striking to experience that the same types of obstacles had been met and the same types of measures had been effective as those tried out in, for example, Europe and North America. The hospitals and their employees were concerned about the effectiveness and prices of the mercury-free alternatives and had some, but limited, awareness of the hazards presented by mercury containing devices. The effective means in this voluntary programme were comprehensive awareness raising and information activities. The presentation was made by: Satish Sinha, Chief Coordinator, Toxics Link, Delhi, India.

Challenges and ways forward in addressing reduction of demand and supply of mercury worldwide

A representative of the United States Environment Protection Agency described the substantial mercury consumption reductions attained in the USA over the last decades as a result of a variety of measures addressing mercury. Examples were given on batteries, biocides in paints, the chlor-

alkali sector, and results of the United States-Canada Great Lakes Binational Toxics Strategy. As regards the international dimension, the USA also currently stores a substantial amount of metal mercury from strategic stockpiles (since 1994) instead of re-introducing it on the market, in consideration of the risks of additional releases to the environment if marketed. The USA currently explores options for managing other domestic mercury stocks and possibilities for encouraging phase-out of mercury mining abroad. The speaker emphasised the US support to the current international mercury partnership programmes initiated in response to UNEP Governing Councils recommendation at its meeting in 2005 to initiate national, regional and international activities to reduce mercury releases worldwide. Currently the following partnerships between a number of governments, industries, research institutions etc., focus on aspects of reduction of mercury demand:

- Mercury Reduction in Products
- Mercury Reduction in the Chlor-alkali Sector
- Mercury Management in Artisanal and Small-scale Gold Mining

The presentation was made by: Ms. Maria Doa, Director, National Program Chemicals Division, Office of Pollution Prevention and Toxics, US Environment Protection Agency Representative.

Possibilities for substituting and reducing mercury

A representative from Uppsala University, Sweden, described how very substantial reductions of intentional mercury use have been attained in some countries, illustrating the availability of suitable alternatives to most traditional mercury uses and the effectiveness of targeted measures to promote reductions. For example, the only substantial remaining intentional mercury uses in Sweden are chlor-alkali production, dental amalgam and mercury containing light sources; the elimination of the first is scheduled in regulation, the elimination of the second is close and still pursued with economical means and planned regulation. The third might be reduced further by the use of mercury-free LED (diode) technology already arising for general lighting purposes. The speaker outlined the reasons for pursuing fast mercury reductions in worldwide cooperation and emphasised that clean-up of mercury already spread to the environment was extremely costly giving motivation for avoiding the problem up front rather than trying to minimize the damage after releases have happened. The speaker recommended a combination of measures: information, encouragement for reductions in demand and supply, and legislation/enforcement. The presentation was made by: Lars Hylander, Associate Professor, Uppsala University, Sweden.

3.3. Adjusting mercury supply to support reduction efforts

The Director General of DG Environment, Peter Carl, of the European Commission, stated in his opening speech that much useful work is already ongoing internationally to reduce mercury releases. It is however clear that further effective measures to reduce global mercury exposure are needed

urgently, and that the mercury problem must be tackled from all possible angles. Peter Carl announced that the European Commission had - on the day of the conference opening - proposed a ban of all European Union exports of mercury as of 2011, as a key part of the EU's Mercury Strategy. The export ban will reduce global supply, and consequently emissions. The proposed regulation also requires excess mercury from European industry and by-products from metal and natural gas extraction to be put into safe storage. This is a clear signal to the world that the EU is ready to pay for the environmental consequences of taking action, and of their determination to contribute to UNEP's objectives. He called on other producers and exporters to do the same. The proposed ban must be approved by the European Parliament and the Council. As outlined in the 2005 EU Mercury Strategy, the EU is also committed to taking action in many different areas to bring about a significant reduction in the demand, supply and emissions of mercury - in the EU itself, as well as elsewhere. Mr. Carl outlined the measures already implemented in the EU; examples addressed water pollution, the chlor-alkali sector and various product uses such as batteries, electrical and electronic equipment, end-of-life vehicles, biocides, cosmetics. New proposals are also on the way to restrict measuring and control equipment, to investigate substitution possibilities for dental amalgam, and to reduce further mercury emissions from coal combustion.

Expected socio-economic impacts for the Almadén mines

The Director General of Environmental Quality and Assessment, Ministry of Environment, Spain, explained how Spain has targeted all important aspects of the mercury problem both nationally and internationally. Spain supports the EU mercury export ban and international efforts to reduce supply and demand of the metal, including a binding international agreement on mercury. The former Spanish mercury producer, MAYASA - previously the world's largest producer - has ceased production of virgin mercury and today only sells mercury produced elsewhere and from stocks, including excess mercury from the European chlor-alkali industry. The mining of mercury has been the main economic activity in the relatively arid region of Almadén for centuries, and the Spanish Government is currently active in trying to ensure alternative economical activities in the region. Suggested initiatives include using the Almadén mercury mines for safe storage of excess mercury in connection with the EU export ban, and establishing a centre of excellence in management of the environmental challenges of mercury. The presentation was made by: Jaime Alejandro Martínez, Director General of Environmental Quality and Assessment, Ministry of Environment, Madrid, Spain.

Social and economic aspects of reductions of mercury mining in Kyrgyzstan

A representative of the Department of Ecology and Nature, Kyrgyzstan, described the social, economic and environmental realities of the Haidarkan Mercury mining facility, one of the few remaining active mercury mines globally. The facility is the major tax payer in a region with 0.5 million inhabitants and a community of several thousand people is directly dependent on the mercury and antimony production of the facility. The

Kyrgyz authorities are monitoring the environmental mercury levels. Mercury releases to the environment are observed and some residential areas, and notably children in these areas, are affected. Mr. Noruzbaev showed photos of the production site including the vast, mercury enriched mine waste pilings. Kyrgyzstan does support cuts in mercury production and options for replacing the mercury production with other livelihoods have been investigated. One possible way forward would be changing the production to extraction of gold from a nearby ore deposit. The required investments were however substantial in the Kyrgyz perspective; they were assessed at around 150-160 million US dollars. Illegal use of mercury in small-scale gold mining has been observed in Kyrgyzstan and assistance to reduce mercury releases from this activity would be welcomed. The presentation was made by: Kubanychbek Noruzbaev, Head of Division, Nature Management, Department of Ecology and Nature, Kyrgyzstan.

Additional USEPA information on global supply reductions

As mentioned above, since 1994 the USA has refrained from marketing substantial amounts of mercury from publicly owned stocks in order to minimize mercury releases to the global environment, and the fate of other stock in the US society are under consideration. The USEPA representative informed that to date, more than half of the U.S. mercury stocks are already in long term storage. The current U.S. stocks total approximately 7,556 metric tons. The U.S. Department of Defense has 4,436 metric tons of mercury in its strategic stockpile that will be stored at one location for at least 40 years. The USA currently explores options for managing other domestic mercury stocks and possibilities for encouraging phase-out of mercury mining abroad.

3.4. Cross-cutting global considerations on mercury

Key reasons for addressing Mercury now through globally coordinated action

A spokesman of the Mercury Policy Project/Zero Mercury Working Group, a representative of several mercury NGOs globally, emphasized that the need for a global binding agreement is urgent and proposed options for a stepwise approach in global reductions of mercury supply and demand. The NGOs propose aiming at - via a binding international agreement - a reduction of mercury demand of 50% by 2012, and 70% by 2017, using 2005 as the base year. In this strategy, the first phase (until 2012) reductions could be attained by addressing the batteries, electronic products, measuring devices, chlor-alkali facilities, and to a lesser degree in this phase, dental amalgam, VCM catalysts and small-scale gold mining. The reductions of the second phase would primarily be relying on the following factors: Phase out date for mercury use in the chlor-alkaly sector, rate of transition to mercury-free VCM production in China, and the pace of mercury use reductions in the small-scale gold mining sector. The NGOs represented consider the reduction of mercury supply equally important and this should be pursued in coordination with the reductions in demand. They presented a suggestion for a prioritised list for stepwise cuts in supply: First, primary mercury mining, second, excess mercury from chlor-alkali cells and other stocks, third, by-

product mercury production from other non-ferrous metal production (because mercury would otherwise be released here in some cases), and lastly, post-consumer recycled mercury (for the same reason). The speaker concluded by stating that there are alternatives to mercury, but no alternatives to international cooperation. The presentation was made by: Michael T. Bender, Mercury Policy Project/Zero Mercury Working Group.

Summary of UNEP's Governing Council considerations and ongoing /planned activities

The Director of UNEP Chemicals summarised the decisions on mercury of UNEP's Governing Council in its regular assemblies in 2003 and 2005, where mercury was acknowledged as a global problem and it was decided that national, regional and global actions should be initiated as soon as possible. UNEP Chemicals are currently working to facilitate discussions on further actions to address mercury, as well as discussion of the heavy metals lead and cadmium, for the up-coming Governing Council meeting in February 2007. The Director of UNEP Chemicals gave an overview of UNEP's Global Mercury Programme and associated current and planned activities. UNEP Chemicals' activities included the following:

- Mercury small grants programme (up to 50,000 USD);
- Inventory development under way in many countries;
- Series of other guidance materials:
 - Considering possible options and approaches to reduce Hg releases developed
 - Assessing exposures and identifying populations at risk under development
 - Developing communication/outreach to populations at risk under development;
- Continued awareness raising activities.

As well as the partnership programmes, which currently include partnerships on the following subjects:

- Artisanal/small-scale gold mining;
- Coal combustion;
- Chlor-alkali sector;
- Reduction in products
- Air transport and fate research

The Director of UNEP Chemicals provided an overview of a number of other relevant chemicals decisions taken at the 23rd GC Session in 2005, which could also have relevance for mercury, namely those made on the Strategic Approach to International Chemicals Management (SAICM), the GC 23/9 omnibus decision on sound chemicals management, on synergies

among Conventions (Montreal, Basel, Rotterdam, Stockholm) and the Chemicals Branch of UNEP, and on the Bali Strategic Plan for Technology Support and Capacity Building. The presentation was made by: Maged Younes, Director of UNEP Chemicals.

4. HIGHLIGHTS FROM DISCUSSION SESSIONS

4.1. Awareness and state of knowledge

In the discussion session in Session 1, the following issues were touched on (among others) in questions and comments made from the floor and the session's speakers:

The lack of awareness in developing countries of mercury's toxic effects and its proper management during use and disposal was pointed out.

Several participants and speakers stated that enough scientific knowledge was available, especially on human exposure via methylmercury in marine foods, to take further action to mitigate the mercury problem. Some felt that the experience could be drawn from the example of lead (Pb), that dedicated action could be successful in reducing risks and that the global society should not wait as long as was done for leaded petrol, before actions were taken. As Philippe Grandjean stated: The precautionary principle is not needed (for methylmercury) - the required evidence is available. It was added from a participant that elemental mercury also had demonstrated clear toxic effects at current exposures on, for example, children in small-scale mining communities.

In response to questions from the floor Liu Chunxin of SEPA, China, explained that China was still pursuing substitution possibilities, for example for light sources which are considered high risk hazardous waste in China. Just as his personal ideas, efforts targeting mercury could for example include limiting adverse effects from mercury and its compounds, restricting mercury in products (except for essential uses), and make mercury containing products less profitable/attractive. A stepwise process would be preferable.

4.2. The question of a legal binding international instrument

As part of the discussion session in Sessions 2 and 3, exchanges were made on the need for a binding international instrument:

Norway expressed that they found an international binding instrument most effective and best for raising the funds needed. Mercury has similarities to POPs and a binding instrument could mobilize GEF resources.

Spain expressed that a binding agreement was indeed needed. There were several similarities to the problems targeted in other agreements such as the Basel and Rotterdam agreements, and it would be the best way to mobilize funding for abatement measures in developing countries. Alternatives for mercury are available and governments should prioritise substitution - a binding agreement would help in this respect.

Brazil stated that it has traditionally joined international agreements. Brazil's position on a binding instrument on mercury is not currently decided, but it will be considered if a binding instrument is proposed. Brazil is currently busy implementing other international agreements and is concerned that implementation of an instrument on mercury will be excessively demanding considering that it would target only one metal.

The position of the USA is that it would rather spend the money on direct improvements and use existing agreements, rather than investing in the implementation of an international agreement on mercury.

Gambia stated that there is a need for action and that we should not forget the cost of not taking appropriate actions in our assessments. There are special needs in developing countries, notably awareness raising and mercury release inventories which can describe the extent of the mercury problem in countries.

The NGO's Mercury Policy Project/Zero Mercury Working Group and Toxic's Link was of the opinion that a binding international agreement would be the best way to promote a pro-active approach and raise the necessary financial assistance.

The Chinese representative considered a binding agreement as one of several options for international cooperation. In his opinion, there are also examples of binding agreements (on other international issues) which have failed to make the desired changes happen.

In response to a question from the floor, Maged Younes of UNEP Chemicals outlined that there were in principle three main options for further international cooperation targeting mercury; which options were most likely to attain support at the up-coming UNEP Governing Council meeting was difficult to say:

- A binding agreement on mercury
- Inclusion of mercury in existing binding agreements
- Voluntary and other measures

4.3. Other proposals for next steps forward in mercury reductions

Several speakers and participants emphasised that there is an urgent need for a strong commitment for mercury reductions in small-scale gold mining as well as in other sectors. The problems and solutions are well known, what is needed now is to the will to do something about it.

Norway expressed that the next UNEP Governing Council meeting will be crucial as regards next steps forward. Norway stated that the following issues would be important to target:

In the short term:

- Reducing mercury supply

- Mercury trade
- Reducing mercury demand, e.g. in small-scale mining and the chlor-alkali sector worldwide
- Mercury releases from coal combustion
- Mercury in products, including dental amalgam

In the long term:

- Establish binding commitments
- Assistance to developing countries
- Make the best use of existing agreements, but they cannot stand alone as expanded possibilities are needed.

NRDC, an American NGO, proposed the following next steps:

- Provision of technical and financial assistance from donor organizations and developed countries to phase out dedicated mercury mining.
- Phase-out of mercury cells in chlor-alkali facilities in developing countries; a working group including donors to discuss approaches would be useful.
- Establishing mercury export bans in developed countries other than EU-member countries.

Peru explained that small-scale gold mining was also an illegal activity in Peru, and that there is a need to find alternative livelihoods and mercury-free mining methods.

4.4. Other issues

In response to a question from Slovenia, Spain expressed that cooperation is important on issues like restoration of mining sites or other mercury contaminated sites; for example between Slovenia and Spain which have common problems due to previous mercury mining.

The Russian delegation summarised the efforts of the Russian Federation for mercury substitution, release reductions in small-scale mining and the chlor-alkali sector, and recalled that sharing experience on best technologies internationally is important. Mercury use in the military sector should also be taken into account in inventories and reduction efforts.

MAYASA, the Spanish state owned company formerly producing mercury from the Almaden mine, now trading mercury from other sources, stated that they supported the views of the Spanish Government and the EU, and that they would like to be part of the solution, and make their extensive knowledge of mercury and mercury trading available. The company has extensive knowledge of the customers for mercury metal, but cannot be

responsible for the user's appliance of the mercury. Support for promotion of alternative livelihoods, including clean-up of the mercury-contaminated area and building up tourism in the Almaden region are very necessary.

International Mercury Conference
How to reduce mercury supply and demand
Brussels, 26-27 October 2006

Centre de Conférences Albert Borschette – Rue Froissart 36

SESSION 0 – OPENING SESSION – SETTING THE STAGE

The International Mercury Conference needs to be positioned within the broader UNEP Framework, the EU's Mercury Strategy and the current EU environmental initiatives that are taken forward by the Presidency and the Commission.

Mr. Mogens Peter Carl, Director General, DG Environment, European Commission:

Setting the Stage in the light of the EC Mercury Strategy

Ms. Lea Kauppi, Director General, Finnish Environment Institute:

Mercury - background for abating mercury pollution

SESSION 1 – WHY DO WE NEED A GLOBAL EFFORT NOW?

Why are global efforts for reduction of demand and supply of mercury needed? What are the adverse health and environmental impacts globally and what are the main sources of the problem? And what do we actually know about the global demand/supply situation for mercury?

Chair/Moderator: Mr. Stefan Scheuer, EU Policy Director, European Environmental Bureau

Mrs. Milena Horvat, Jozef Stefan Institute, Slovenia:

Global cycling and adverse impacts of mercury

Mr. Michael T. Bender, Mercury Policy Project/Zero Mercury Working Group:

Key reasons for addressing mercury now – through globally coordinated action

Mr. Philippe Grandjean, Professor, University of Southern Denmark and Harvard University, USA:

Newest research findings on mercury's health effects

Mr. Liu Chunxin, Environmental Protection, State Environmental Protection Administration, Beijing, People's Rep. of China:

Mercury - in a Chinese perspective

Mr. Peter Maxson, Director Concorde East/West, Brussels, Belgium:

Taking stock on the global demand and supply of mercury

Wrap up Session one Chair: Mr Stefan Scheuer, EU Policy Director, European Environmental Bureau:

Conclusions from this session

SESSION 2 – CHALLENGES AND OBSTACLES

What are the key challenges and obstacles when addressing mercury? What is the socio-economic significance of mercury for producers, recyclers and suppliers? In particular, what are the challenges in reducing mercury demand and using substitutes in small-scale gold mining and other fields in the developing world?

Chair/Moderator: Mr. Julian Oliver, Secretary General, EurActiv

Mr. Stefan Scheuer, EU Policy Director, European Environmental Bureau:

Main Conclusions and Wrap-up from Session 1

Mr. Kevin Telmer, Associate Professor, University of Victoria, Canada, GEF/UNDP/UNIDO Global Mercury Project:

Small-scale gold mining - magnitude and challenges worldwide

Ms. S ergia de Souza Oliveira, Ministry of the Environment, Brazil:

Mercury – in a Brazilian perspective

Mr. Satish Sinha, Chief Coordinator, Toxics Link, Delhi, India:

Challenges and lessons learned on Mercury substitution in India

Mr. Jaime Alejandro Mart nez, Director General of Environmental Quality and Assessment, Ministry of Environment, Madrid, Spain:

Expected socio-economic impacts for the Almadén mines

Mr. Kubanychbek Noruzbaev, Head of Division, Nature Management, Department of Ecology and Nature Kyrgyzstan

Social and economic aspects of reductions of mercury mining in Kyrgyzstan

Ms. Maria Doa, Director, National Program Chemicals Division, Office of Pollution Prevention and Toxics, US Environment Protection Agency:

Challenges and ways forward in addressing reduction of demand and supply of mercury worldwide

SESSION 3 – STEPS FORWARD IN REDUCING DEMAND AND SUPPLY

How could reduction of demand and supply of mercury be forwarded globally, in an innovative, socially acceptable, cost-effective and sufficient manner? What is the time-scale to consider? What are the substitution and reduction options and solutions to the socio-economic challenges? And what are the regulatory and management solutions nationally and internationally?

Chair/Moderator: Mr. Timo Makela Director, Sustainable Development & Integration, DG Environment, European Commission

Mr. Julian Oliver, Secretary General, EurActiv

Main Conclusions and Wrap-up from Session 2

Mr. Lars Hylander, Associate Professor, Uppsala University, Sweden:

Possibilities for substituting and reducing mercury

Mr. Bardolf Paul, Vice Chairman, Susila Dharma International. Implementing NGO for GEF/UNDP/UNIDO's small-scale gold mining project:

Ways forward at local level in gold mining communities

Mr. Maged Younes, Director of UNEP Chemicals:

Summary of UNEP's Governing Council considerations and ongoing/planned activities

Chair: Mr. Timo Makela /DG Environment:

Visions for ways forward in global mercury reductions and conclusions of the conference