



The Minamata Convention on Mercury, a success story of environmental multilateralism

Brown Bag Seminar
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Agenda

- Background (deposits, demand, emissions)
- Minamata mercury events timeline
- Global mercury events timeline
- Negotiation process
- Selected articles of the Minamata convention
- Next steps

Background of mercury

Deposits, annual demand

- 600 000 tonnes of mercury deposits found mainly in China, Kyrgyzstan, Mexico, Peru, Russia, Slovenia, Spain, Ukraine (2012)
- Global annual mercury demand
 - 9000 tonnes 1960s
 - 7000 tonnes 1980s
 - 4000 tonnes 1990s
 - 3000-3900 tonnes 2005
- 1400 tonnes 2011 mercury use in ASGM (artisanal smallscale gold mining)

Mercury emissions

- 1960 tonnes global emissions in 2010
40% in East and Southeast Asia
- 37% Artisanal smallscale gold mining
- 24% Fossil fuel combustion (power, heating)
- 18% Metal production
- 9% Cement production
- 6% Other uses
- 5% Waste incineration
- 1% Chlor-alkali industry

Minamata mercury events timeline (1)

- 1956 A young girl at Minamata is hospitalised with syndrome of severe numbness of the limbs, inability to speak and inability to eat.

Minamata Disease officially acknowledged.

- 1959 The cause of Minamata Disease identified:
Acetaldehyde and acetic acid manufacturing
Industry

1968 Production of acetaldehyde stopped at
Minamata

Minamata mercury events timeline (2)

- Tomoko Uemura's crippled hand taken by W. Eugene Smith in 1971; Tomoko died in 1977. Copyright belongs to the Aileen Archive.



Minamata mercury events timeline (3)

1991 Cost of damage caused by Minamata disease
calculated: 1991 81 Yen pro 1 USD

- - 7,671,000,000 yen/year health damage compensations (95'000'000 USD)
- - 4,271,000,000 yen/year expenditure for dredging work in Minamata Bay (53'000'000 USD)
- - 689,000,000 yen/year fishery compensations (8'500'000 USD)

Global mercury events timeline (1)

- 1960-1980 National regulations
- 1986 Swiss Ordinance on Substances: severe restriction of mercury
- 1992 Earth Summit, Rio-de-Janeiro. Establishment of the Global Environment Facility (GEF)
- 2004 World's largest mercury mine in Spain (Almaden) stopped primary mercury production

Global mercury events timeline (2)

- **1989 Montreal Protocol on Substances that Deplete the Ozone Layer (CFCs).**
- **2004 Rotterdam Convention on Prior Informed Consent (PIC) Procedure and Information Exchange (pesticides and industrial chemicals that have been banned or severely restricted).**
- **2004 Stockholm Convention on Persistent Organic Pollutants; POPs are organic chemical substances, that is, they are carbon-based.**

Global mercury events timeline (3)

- Since 2001 discussions in UNEP on mercury, cadmium and lead
- Some countries propose after the Stockholm POPs Convention to develop a “PIPs Convention” (Persistent Inorganic Pollutants) or a “Heavy Metal Convention” in order to regulate several metals at the same time.
- 2007 UNEP decides to prepare negotiations for mercury, but not lead and cadmium.
- Industrial countries with mining industry lobby against a legally binding instrument for lead and cadmium

Negotiation process (1)

- 2009 UNEP Governing Council's decision to elaborate a legally binding instrument to reduce risks posed by mercury
- 2010 INC1 Stockholm (Intergovernmental Negotiating Committee)
- 2011 INC2 Chiba, INC3 Nairobi
- 2012 INC4 Punta del Este (Uruguay)
- Jan 2013 INC5 Geneva Final negotiation round

Negotiation process (2)

- Over 750 participants attended the session, representing 137 governments, as well as 57 non-governmental and 14 intergovernmental organizations.
- Delegates negotiated on the basis of a text prepared by INC Chair Fernando Lugris (Uruguay) during the intersessional period.
- INC5 addressed several complex policy and technical issues, including mercury air emissions and releases to water and land, health aspects, and phase-out and phase-down dates for products and processes.
- A final compromise was reached Saturday morning 19 January 2013 based on a package addressing outstanding issues related to the preamble, finance and compliance.

Negotiation process (3)



Negotiation process (4)



Negotiation process (4)



Article 1 Objective

The objective of the Convention is to protect human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds

Article 2 Definitions

- BAT “best available techniques” that are the most effective to prevent and to reduce emissions and releases of mercury to air, water and land.
- BEP “best environmental practices” means the application of the most appropriate combination of environmental control measures and strategies.
- “Primary mercury mining” means mining in which the principal material sought is mercury.

Art.3 Mercury supply sources and trade

Para.1 Definitions

- “Mercury” includes mixtures of mercury with other substances, including alloys of mercury, with a mercury concentration of at least 95 per cent by weight;
- “Mercury compounds” means mercury (I) chloride (known also as calomel), mercury (II) oxide, mercury (II) sulphate, mercury (II) nitrate, cinnabar (Sulfide mineral HgS) and mercury sulphide.

Art.3 Mercury supply sources and trade

para.3 Primary mining

- Each Party shall not allow primary mercury mining that was not being conducted within its territory at the date of entry into force of the Convention for it

Art.3 Mercury supply sources and trade

para.4 Primary mining

- Each Party shall only allow **primary mercury mining** that was being conducted within its territory at the date of entry into force of the Convention for it for a period of up to **fifteen years** after this date. During this period, mercury from such mining shall only be used in manufacturing of mercury added products in accordance with Article 6, in manufacturing processes in accordance of Article 7, or be disposed in accordance with Article 13, using operations which do not lead to recovery, recycling, reclamation, direct re-use or alternative uses.

Achim Steiner ED UNEP, Federal Councilor Doris Leuthard



Art.3 Mercury supply sources and trade

Para.6 Ban of export

Each Party **shall not allow the export of mercury** except:

- (a) To a Party that has provided the exporting Party with its written consent, and only for the purpose of:
 - (i) A use allowed to the importing Party under this Convention; or
 - (ii) Environmentally sound interim storage as set out in Article 12; or
- (b) To a non-Party that has provided the exporting Party with its written consent, including certification demonstrating that:
 - (i) The non-Party has measures in place to ensure the protection of human health and the environment and to ensure its compliance with the provisions of Articles 12 and 13; and
 - (ii) Such mercury will be used only for a use allowed to a Party under this Convention or for environmentally sound interim storage as set out in Article 12.

Art.6 Para.1 Phase out of products

- Each Party **shall not allow**, by taking appropriate measures, **the manufacture, import or export of mercury-added products** listed in Part I of Annex C after the phase-out date specified for those products, except where an exclusion is specified in Annex C or the Party has a registered exemption pursuant to Article 8.

Annex C Mercury-added products (1)

2020 **Batteries**, except for button zinc silver oxide batteries with a mercury content less than 2%, button zinc air batteries with a mercury content less than 2%.

2018 **Switches and Relays**, except very high accuracy capacitance and loss measurement bridges and high frequency RF switches and relays in monitoring and control instruments with a maximum mercury content of 20 mg/bridge switch or relay.

2018 **Compact fluorescent lamps (CFLs)** for general lighting purposes 30 watts or less with a mercury content exceeding 5 mg per lamp burner.

2020 **Linear fluorescent lamps (LFLs)** for general lighting purposes - Triband phosphor < 60 watts with a mercury content exceeding 5 mg per lamp

2020 **Linear fluorescent lamps (LFLs)** for general lighting purposes – halophosphate phosphor 40 watts or less with a mercury content exceeding 10 mg per lamp

Annex C Mercury-added products (2)

2020 **High pressure mercury vapour lamps (HPMV)** for general lighting purposes 2020

2020 **Mercury in cold cathode fluorescent lamps** and external electrode fluorescent lamps

(CCFL and EEFL) for electronic displays:

(a) short length (≤ 500 mm) with mercury content exceeding 3.5mg per lamp

(b) medium length (> 500 mm and $\leq 1\,500$ mm) with mercury content exceeding 5 mg per lamp

(c) long length ($> 1\,500$ mm) with mercury content exceeding 13 mg per lamp

Annex C Mercury-added products (3)

2018 **Cosmetics including skin lightening soaps and creams**, (above 1ppm), except eye area, cosmetics where mercury is used as a preservative and no effective and safe substitute preservatives are available

2018 **Pesticides, biocides and topical antiseptics**

2020 The following non-electronic **measuring devices** except non-electronic measuring devices installed in large-scale equipment or those used for high precision measurement, where no suitable mercury free alternative is available: (a) barometers; (b) hygrometers; (c) manometers; (d) thermometers; (e) sphygmomanometers.

Products subject to Art.6 Para.2

Mercury added products; dental amalgam

Measures to be taken by a Party to phase down the use of dental amalgam shall take into account the Party's domestic circumstances and relevant international guidance and shall include two or more of the measures from the following list:

- (i) Setting national objectives aiming at dental caries prevention and health promotion, thereby minimising the need for dental restoration;
- (ii) Setting national objectives aiming at minimising its use;
- (iii) Promoting the use of cost-effective and clinically effective mercury-free alternatives for dental restoration;
- (iv) Promoting research and development of quality mercury-free materials for dental restoration;
- (v) Encouraging representative professional organisations and dental schools to educate and train dental professionals and students on the use of mercury-free dental restoration alternatives and on promoting best management practices;
- (vi) Discouraging insurance policies, and programmes that favour dental amalgam use over mercury-free dental restoration;
- (vii) Encouraging insurance policies and programmes that favour the use of quality alternatives to dental amalgam for dental restoration;
- (viii) Restricting the use of dental amalgam to its encapsulated form;
- (ix) Promoting the use of best environmental practices in dental facilities to reduce releases of mercury and mercury compounds to water and land

Art.7 Manufacturing processes in which mercury is used

Restriction of use

2. Each Party **shall not allow** the use of mercury or mercury compounds in the manufacturing processes listed in Annex D after the phase-out date specified in that Annex for the individual processes, except where the Party has a registered exemption pursuant to Article 8.
3. Each Party **shall take measures to restrict** the use of mercury or mercury compounds in the processes listed in Part II of Annex D in accordance with the provisions set out therein.

Annex D Manufacturing processes in which mercury or mercury compounds are used

Part I: Processes subject to Art.7, paragraph 2

Manufacturing process using mercury or mercury compounds	Phase-out date
Chlor-alkali production	2025
Acetaldehyde production in which mercury or mercury compounds are used as a catalyst	2018

Annex D Manufacturing processes in which mercury or mercury compounds are used; Part II: Processes subject to Art.7, paragraph 3; Vinylchloride monomer production

Measures to be taken by the Parties shall include but not be limited to:

- (i) Promoting measures to reduce the use of mercury;
- (ii) Promoting measures to reduce the reliance on mercury from primary mining;
- (iii) Controlling emissions and releases pursuant to Articles 10 and 11;
- (iv) Supporting research and development in respect of mercury-free catalysts and processes;
- (v) Not allowing the use of mercury [five years] after the Conference of the Parties has established that alternatives have become globally accessible and socio-economically and technically feasible.

Art.9 para.1 and 2

Artisanal and small-scale gold mining

1. The measures in this Article and in Annex E shall apply to artisanal and small-scale gold mining and processing in which mercury amalgamation is used to extract gold from ore.
2. Each Party that has artisanal and small-scale gold mining and processing subject to this Article within its territory shall take steps to reduce, and where feasible eliminate, the use of mercury and mercury compounds in, and the releases to the environment of mercury from, such mining and processing.

Art.9 Para.3

Artisanal and small-scale gold mining

3. Each Party shall report to the Secretariat if at any time it determines that artisanal and smallscale gold mining and processing in its territory is more than insignificant. If it so determines the Party

shall:

- (a) Develop and implement a **national action plan** in accordance with Annex E;
- (b) Submit its national action plan to the Secretariat no later than **three years after entry into force** of the Convention for it; and
- (c) Thereafter, provide a **review every three years** of the progress made in meeting its obligations under Article 9 and include such reviews in its reports submitted pursuant to Article 22.

Annex E National action plans

Artisanal and small-scale gold mining

1. Each Party that is subject to the provisions of paragraph 3 of Article 9 **shall include in its national action plan:**
 - (a) National objectives and **reduction targets**;
 - (b) **Actions to eliminate:**
 - (i) Whole ore amalgamation;
 - (ii) Open burning of amalgam or processed amalgam;
 - (iii) Burning of amalgam in residential areas; and
 - (iv) Cyanide leaching in sediment, ore or tailings to which mercury has been added without first removing the mercury;
 - (c) Steps to facilitate the formalization or regulation of the artisanal and small-scale gold mining sector;
 - (d) Baseline estimates of the quantities of mercury used and the practices employed in artisanal and small-scale gold mining and processing within its territory;
 - (e-j) Strategies

Art.10 Para.4 Emissions

- For its **new sources**, each Party shall require the use of **best available techniques and best environmental practices** to control and, where feasible reduce emissions, as soon as practicable but no later than five years after the Convention enters into force for that Party. A Party may use emission limit values that are consistent with the application of best available techniques.

Art.10 Para.5.1 Emissions

For its existing sources, each Party shall include in any national plan, and shall implement, one or more of the following measures, taking into account its national circumstances, and the economic and technical feasibility, and affordability of the measures, as soon as practicable but no more than ten years after the entry into force of the Convention for it:

- (a) a quantified goal for controlling and, where feasible, reducing emissions from relevant sources;
- (b) emission limit values for controlling and, where feasible, reducing emissions from relevant sources;
- (c) the use of best available techniques and best environmental practices to control emissions from relevant sources;
- (d) a multi-pollutant control strategy that would deliver co-benefits for control of mercury emissions;
- [(e) alternative measures to [control][reduce] emissions from relevant sources.]

Annex F List of point source categories of emissions of mercury and its compounds to the atmosphere

- Coal-fired power plants
- Coal-fired industrial boilers
- Smelting and roasting processes used in the production of non-ferrous metals¹
- Waste incineration facilities
- Cement clinker production facilities

Art.11 Para.3 Releases to land and water

Each Party shall, no later than three years after entry into force of the Convention for it and on a regular basis thereafter, identify the relevant point source categories.

Art.11 Para.5 Releases to land and water

The measures shall include one or more of the following, as appropriate:

- a) Release limit values to control and, where feasible, reduce releases from relevant sources;
- b) The use of best available techniques and best environmental practices to control releases from relevant sources;
- c) A multi-pollutant control strategy that would deliver co-benefits for control of mercury releases [;
- d) Alternative measures to [control][reduce] releases from relevant sources].

Art.13 Para.3 Mercury wastes

Each Party shall take appropriate measures so that mercury waste is:

- (a) Managed in an environmentally sound manner, taking into account the guidelines developed under the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal
- (b) Only recovered, recycled, reclaimed or directly re-used for a use allowed to a Party under this Convention or for environmentally sound disposal pursuant to paragraph 3 (a);
- (c) For Parties to the Basel Convention, not transported across international boundaries except for the purpose of environmentally sound disposal in conformity with this Article and with that Convention.

Article 15 Financial Resources and Mechanism

- A Mechanism for the provision of adequate, predictable, and timely financial resources is hereby defined. The Mechanism is to support developing country Parties and Parties with economies in transition in implementing their obligations under this Convention.
- The Mechanism shall include:
 - (a) The GEF Trust Fund, and
 - (b) a specific international Programme to support capacity-building and technical assistance.
- The GEF Trust Fund shall provide new, predictable, adequate and timely financial resources to meet costs in support of implementation of the Convention as agreed by the Conference of the Parties.
- In addition, the Conference of the Parties shall provide guidance on an indicative list of categories of activities that could receive support from the GEF Trust Fund.

ARTICLE 16. TECHNICAL ASSISTANCE, CAPACITY BUILDING AND TECHNOLOGY TRANSFER

- Parties shall cooperate to provide, within their respective capabilities, timely and appropriate capacity-building and technical assistance to developing country Parties to assist them in implementing their obligations under this Convention.
- Capacity-building and technical assistance may be delivered through regional, subregional and national arrangements, including existing regional and subregional centres, through other multilateral and bilateral means, and through partnerships, including partnerships involving the private sector.
- Cooperation and coordination with other multilateral environmental agreements in the field of chemicals and wastes should be sought to increase the effectiveness of technical assistance and its delivery.
- Developed country Parties and other Parties within their capabilities shall promote and facilitate, supported by the private sector and other relevant stakeholders as appropriate, development, transfer and diffusion of, and access to, up-to-date environmentally sound alternative technologies to developing country Parties

Article 17. Implementation and compliance committee

- The committee shall examine both individual and systemic issues of implementation and compliance.
- It makes recommendations to the COP.
- It shall consist of 15 members.
- It will make every effort to adopt its recommendations by consensus and, as a last resort, by a three-fourths majority vote of the members present and voting, based on a quorum of two-thirds of the members.

Next steps

- 7.-11.10.2013 Diplomatic conference Kumamoto / Minamata (Japan)
- Convention open for signature during one year
- Art.31 Para 1. This Convention shall be subject to ratification, acceptance or approval by States and by regional economic integration organizations. It shall be open for accession by States and by regional economic integration organizations from the day after the date on which the Convention is closed for signature. Instruments of ratification, acceptance, approval or accession shall be deposited with the Depositary.
- Art.32 Para 1 This Convention shall enter into force on the ninetieth day after the date of deposit of the fiftieth instrument of ratification, acceptance, approval or accession.

Saturday 19.01.2013 7am
„We are the champions....“
Music from Freddie Mercury, Band „Queen“

