

# MERCURY IN THE ENVIRONMENT AND HEALTHCARE: EU AND INTERNATIONAL LEGISLATION STATE OF PLAY



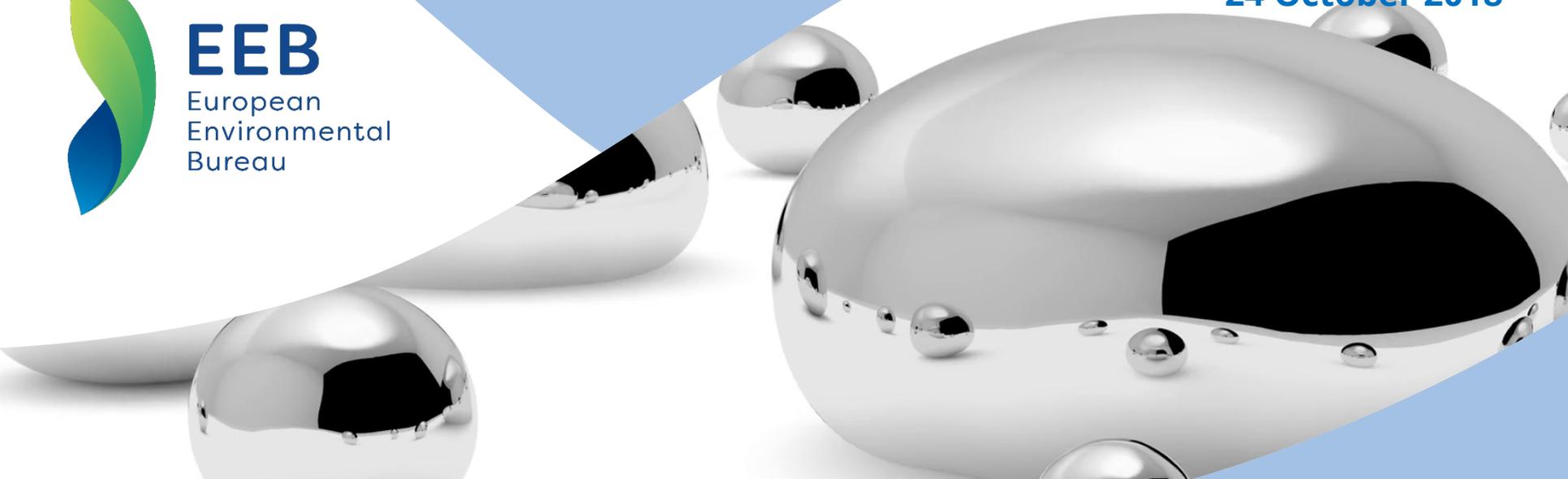
Elena Lymberidi-Settimo, Project Manager “Zero Mercury Campaign”, European Environmental Bureau  
HCWH Europe Webinar: Eliminating the Use of Dental Amalgam in the EU - The Way Forward

24 October 2018



**EEB**

European  
Environmental  
Bureau



# PRESENTATION OUTLINE

1. About EEB
2. Mercury, history, health effects, uses
  - ❖ Mercury in Products and Healthcare
3. Legislative state of play and respective Dental amalgam provisions
  - a. Minamata Convention
  - b. EU Mercury regulation
4. Summary / looking ahead



# EUROPEAN ENVIRONMENTAL BUREAU



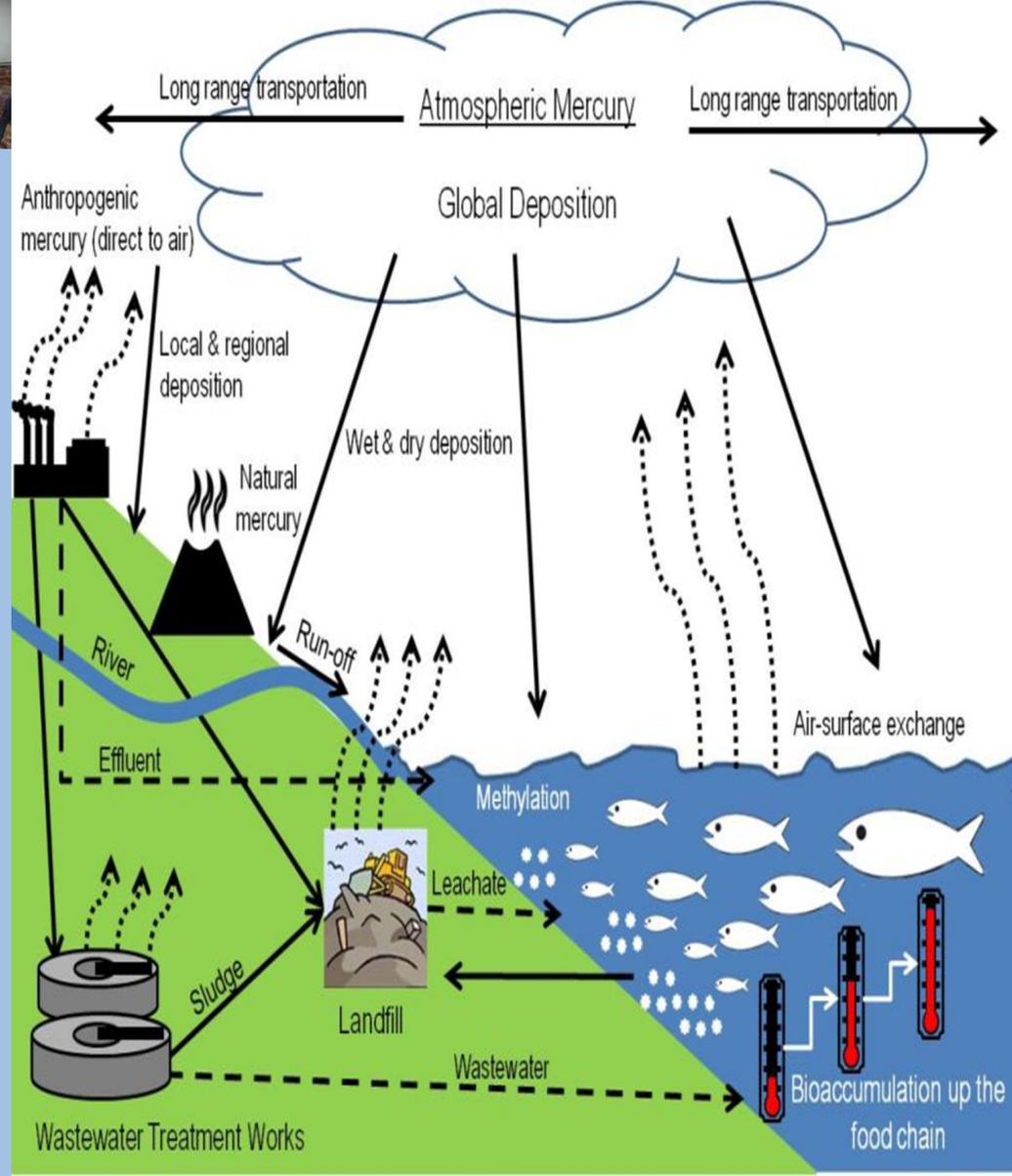
**EEB**  
European  
Environmental  
Bureau

- Europe's largest network of environmental citizens' organisations
  - around **140 civil society organisations...** including a growing number of **European networks**
  - ...from more than **30 European countries**
- Over 40 years of EU environmental policy expertise
- EEB tackles **Europe's most pressing environmental problems,** sustainable development, good governance, participatory democracy and the rule of law in Europe and beyond.
- [www.eeb.org](http://www.eeb.org)
- **Working on mercury since 2004, first dental conference in 2007.**

# MERCURY



- Heavy Metal (Hg-Cinnabar)
- Toxic to human health and the environment, especially to the developing nervous system.
- Most toxic form Methylmercury
- Bioaccumulates, biomagnifies
- Passes placental & blood-brain barrier; exposures during pregnancy >highest concern.
- possible carcinogenic , tremors, insomnia, memory loss, neuromuscular changes, headaches.
- Elemental Hg persistent
- Global pollutant



# MINAMATA, JAPAN

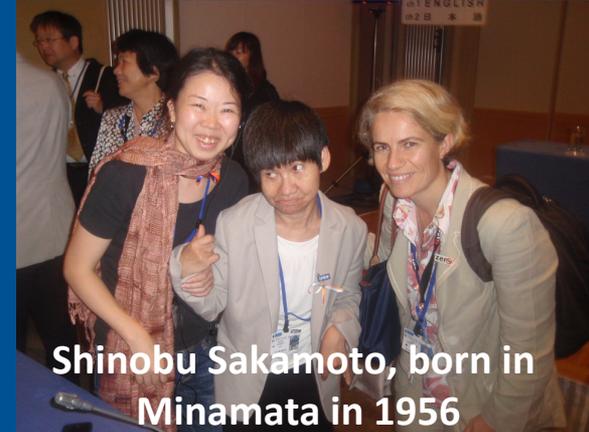
- Small fishermen's village.
- Chemicals factory released mercury contaminated effluent (methyl mercury) into Minamata Bay between 1932-1968.
- Place where Minamata disease was discovered in 1956.
- Severe impacts on animals and humans, particularly on central nervous system.
- Bioaccumulated in fish and shell fish that the local population consumed and resulted in Hg poisoning.

## Symptoms:

- Muscle weakness
- Damage to hearing vision and speech
- Crippling hands and feet

## Extreme cases:

- Paralysis
- Coma
- Death



Shinobu Sakamoto, born in Minamata in 1956

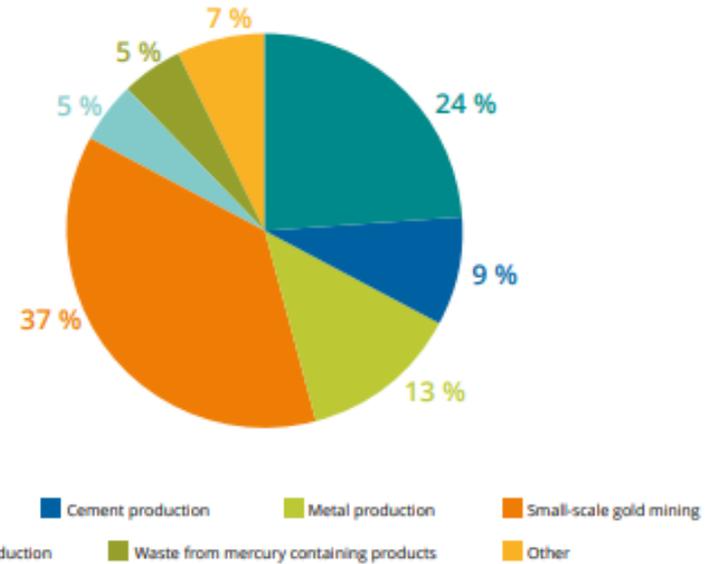


# p.6 Sectors Contributing to Mercury emissions/

## Main global potential sources of mercury emissions



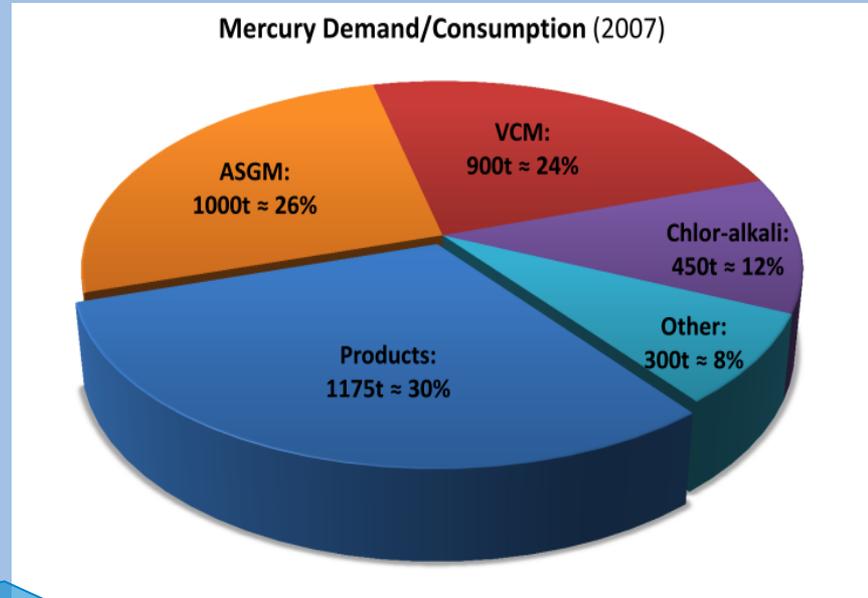
## Global mercury releases to air in 2010, by main source



Source: 2018, EEA report, AMAP and UNEP 2013

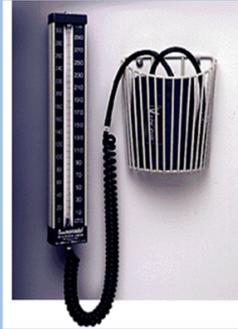
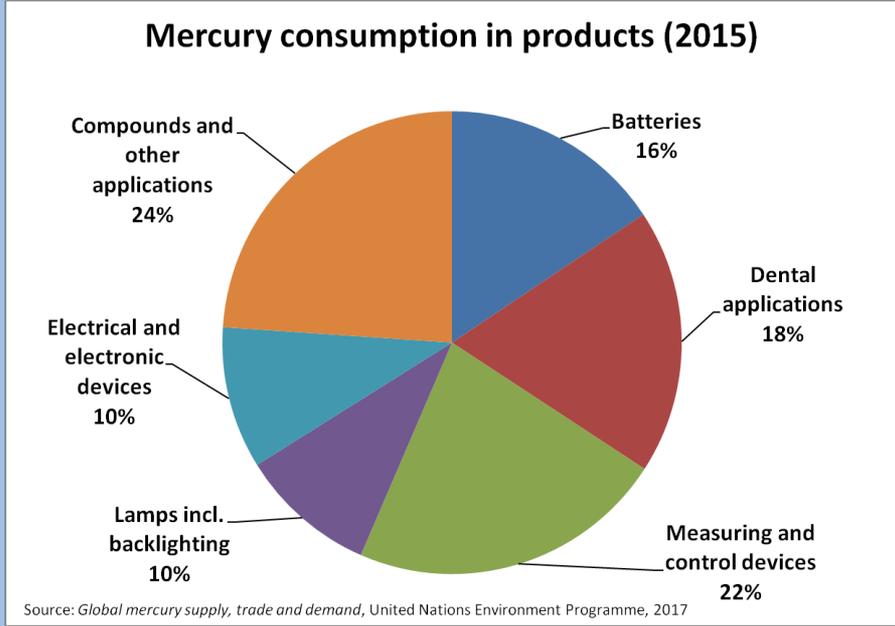
# USE OF MERCURY PRODUCTS AND PROCESSES

Demand/Consumption by Product Category (2007)	
Batteries	200 – 400 t
Dental use	250 – 350 t
Measuring devices	250 – 350 t
Switches and relays	100 – 200 t
Lighting	110 – 140 t



➤ Mercury-added products  
≈ 1/3 of total demand

# MERCURY CONSUMPTION IN PRODUCTS/HEALTHCARE



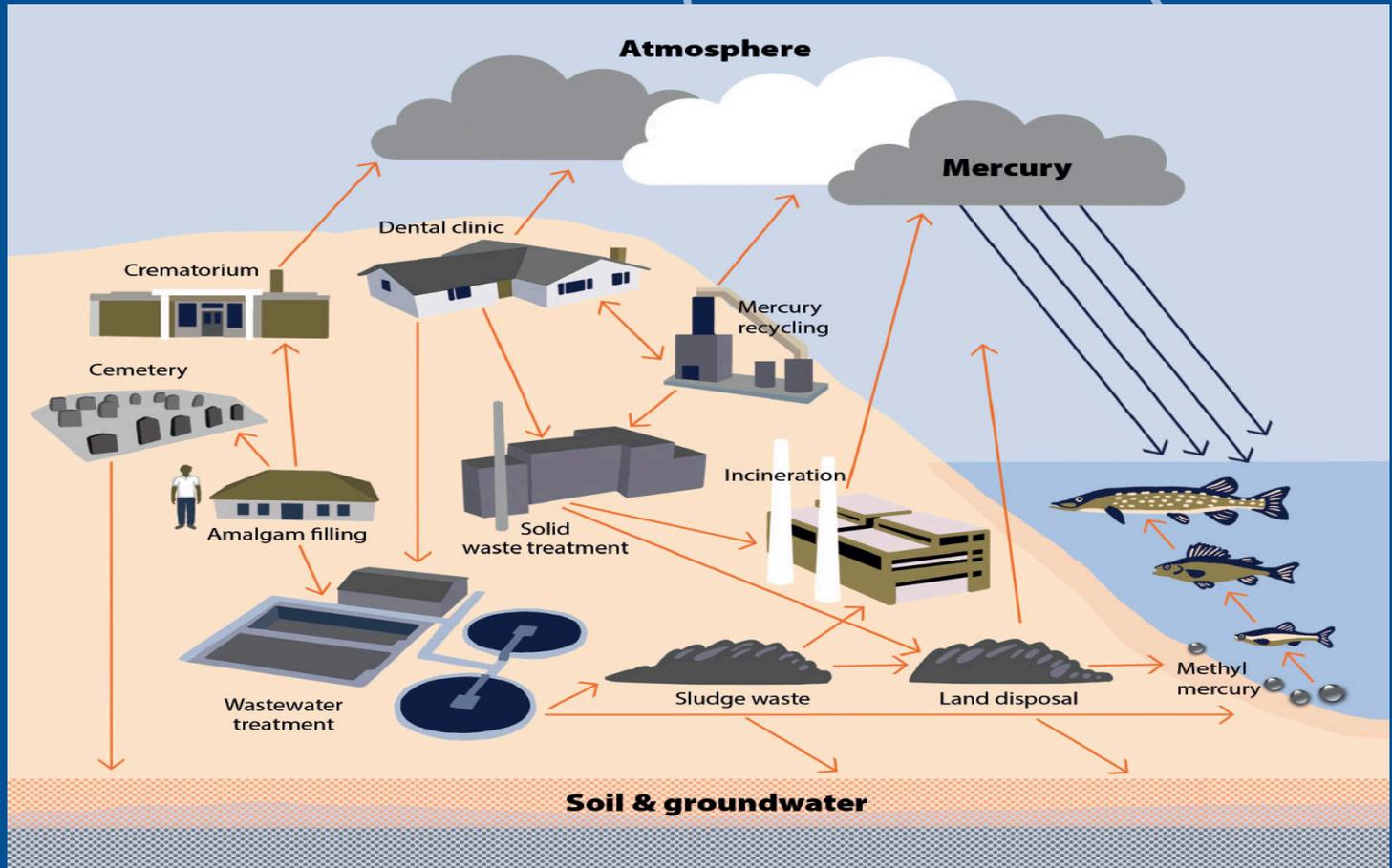
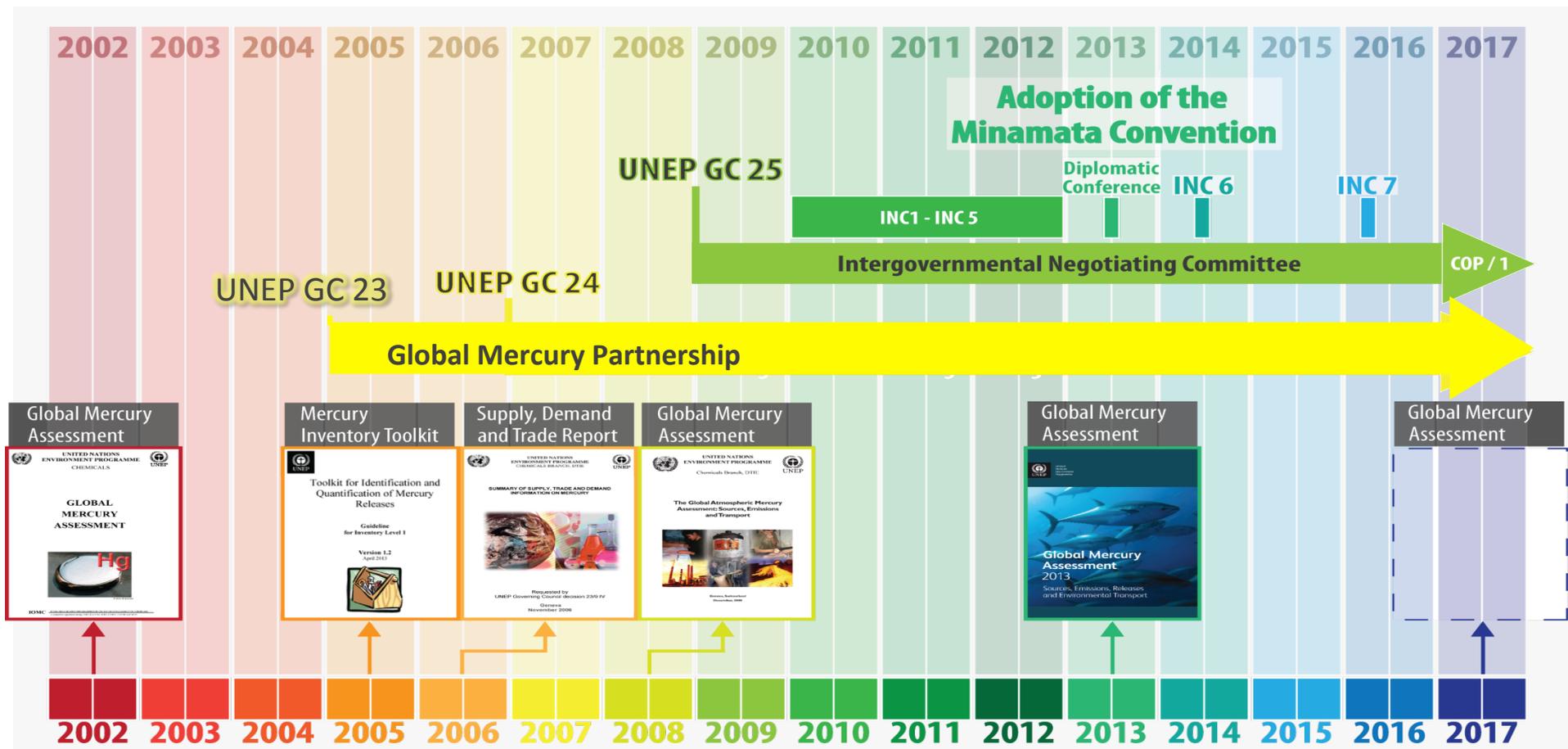


Figure 2: Mercury releases to the environment from dental care

# ROAD TO MINAMATA AND BEYOND



Global Mercury Assessment

Mercury Inventory Toolkit

Supply, Demand and Trade Report

Global Mercury Assessment

Global Mercury Assessment

Global Mercury Assessment

2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017



AUGUST

**16**

**ENTRY INTO FORCE**

2017

**99**

Ratifications as of  
16 October 2018

First Conference of the Parties  
24-29 September 2017  
Geneva, Switzerland





# MINAMATA CONVENTION ON MERCURY



[WWW.MERCURYCONVENTION.ORG](http://WWW.MERCURYCONVENTION.ORG)



## **OBJECTIVE:**

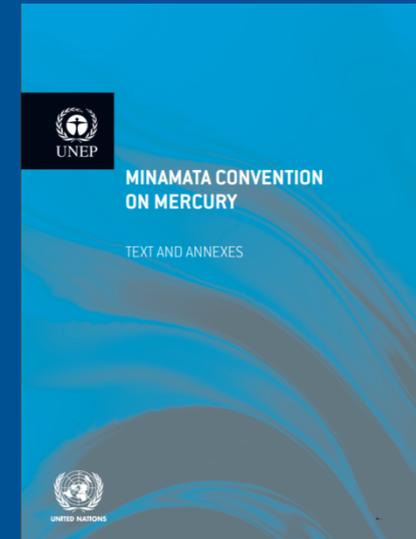
TO PROTECT THE HUMAN HEALTH AND THE ENVIRONMENT FROM ANTHROPOGENIC EMISSIONS AND RELEASES OF MERCURY AND MERCURY COMPOUNDS.

## **PROVISIONS COVER:**

SUPPLY, TRADE,  
PRODUCTS, PROCESSES,  
ARTISANAL SMALL SCALE GOLD MINING  
EMISSIONS, RELEASES,  
STORAGE, WASTE, CONTAMINATED SITES

## **OWN FINANCIAL MECHANISM**

**Health aspects, capacity building, technical assistance and technology transfer, information and awareness raising, implementation and compliance, effectiveness evaluation, etc.**



## Part II: Products subject to Article 4, paragraph 3

Mercury-added products	Provisions
Dental amalgam	<p>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:</p> <ul style="list-style-type: none"><li>(i) Setting national objectives aiming at dental caries prevention and health promotion, thereby minimizing the need for dental restoration;</li><li>(ii) Setting national objectives aiming at minimizing its use;</li><li>(iii) Promoting the use of cost-effective and clinically effective mercury-free alternatives for dental restoration;</li><li>(iv) Promoting research and development of quality mercury-free materials for dental restoration;</li><li>(v) Encouraging representative professional organizations 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;</li><li>(vi) Discouraging insurance policies and programmes that favour dental amalgam use over mercury-free dental restoration;</li><li>(vii) Encouraging insurance policies and programmes that favour the use of quality alternatives to dental amalgam for dental restoration;</li><li>(viii) Restricting the use of dental amalgam to its encapsulated form;</li><li>(ix) Promoting the use of best environmental practices in dental facilities to reduce releases of mercury and mercury compounds to water and land.</li></ul>

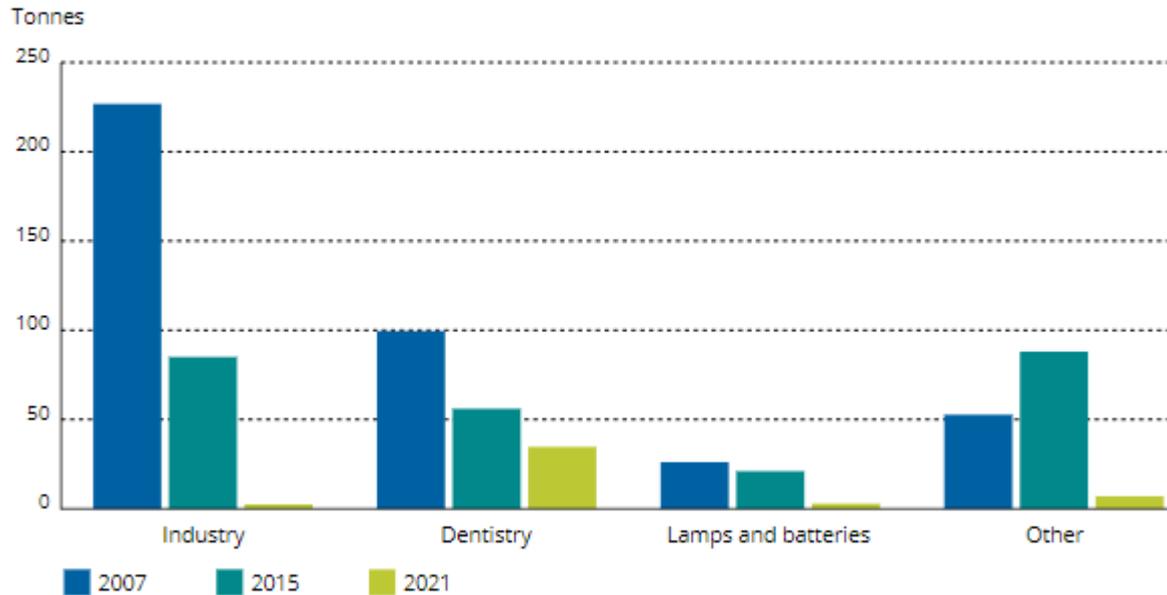


# EU TRACK



- **2005 EU Mercury Strategy**
- 2007 mercury restrictions in measuring devices
- 2008 EU Mercury Export Ban Regulation
- **2008 comments on EU Scientific Committees' opinions on environmental effects from dental amalgam use**
- 2009 Mercury restrictions in Fluoride Lamps via RoHS
- **2010 EU Mercury Strategy Review**
- 2011 add. restrictions on Meas Dev via REACH & on phenylmercury compounds (polyurethanes)
- 2011-2013 Rev. Chloralkali BREF under IED – leads to ban 11 Dec 2017
- **2012 BIO S study on batteries and dental amalgam**
- 2013 mercury ban in Button cells under Batteries Directive
- **2014 comments on EU Scientific Committees' opinions on environmental effects from dental amalgam use**
- 2014 -2015 Study/ Legal Gap analysis vis a vis the Minamata Convention
- **2017 revised EU Mercury Regulation**
- Input to BREF discussions – LCPs, Cement, WI/crematoria, NFM, etc)

## Estimates of mercury consumption in the EU for 2007, 2015, 2021



Sources: based on data from ICF International, 2015 (2007 data); UN Environment, 2017a (2015 data); and European Commission, 2017 (2021 projections).

# EU MERCURY REGULATION 2017/852



## MERCURY REGULATION - Dental Amalgam

Article 10 of Regulation (EU) 2017/852 sets the following restrictions:

**1 July 2018**, dental amalgam ban for dental treatment of (i) deciduous teeth, (ii) of children under 15 years and (iii) of pregnant or breastfeeding women, unless deemed strictly necessary by the dental practitioner on the ground of specific medical needs of the patient.

By **1 July 2019**, each Member State must set out and publish on the Internet a **national plan** on measures to phase down the use of dental amalgam.

As from **1 January 2019**, dental practitioners are **no longer allowed to use dental amalgam in bulk**, but only in pre-dosed encapsulated form so as to prevent exposure of the patient and practitioner.

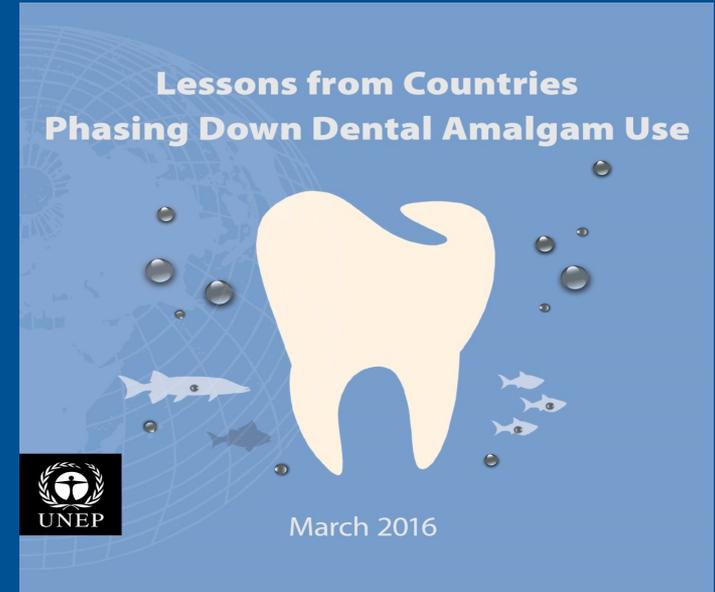
As from **1 January 2019**, all dental facilities dealing with dental amalgam (use of amalgam and/or removing dental amalgam fillings) must be **equipped with amalgam separators** [...], with minimum retention level of 95% ; immediately in case of new separators, by 1 January 2021 in case of existing separators.

Dental practitioners must ensure that their **amalgam waste** are handled and collected by authorised waste management establishments or undertakings (no direct or indirect release into the environment).

The Commission shall report by **30 June 2020** on the feasibility of a phase out of the use of dental amalgam in the long term, and preferably by 2030, and present concomitantly, if deemed appropriate, a legislative proposal.

# SUMMARY AND LOOKING AHEAD

- SOME EU COUNTRIES HAVE ALREADY BANNED FULLY DENTAL AMALGAM USE
- EU REGULATION GOES BEYOND THE MINAMATA CONVENTION ; BANS USE IN CHILDREN (<15) AND PREGNANT OR BREASTFEEDING WOMEN



- >EUROPE SERVES AS A MODEL FOR OTHER GOVERNMENTS
- >A FULL DENTAL AMALGAM BAN IS POSSIBLE AT EU LEVEL AND NEEDS TO BE PURSUED RAPIDLY.

THANK YOU FOR YOUR ATTENTION!

[www.zeromercury.org](http://www.zeromercury.org)

[www.eeb.org](http://www.eeb.org)



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