



國際化學品2019
8/7~8/9 管理研討會
**International Chemical
Management Conference**

無毒家園 綠色首都 永續社會
Toxic-free Environment Green Community Sustainable Society

Compliance with Minamata Convention on phase-out of mercury-added products in Indonesia

Taipei, 8 August 2019

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Nexus3 Foundation, Indonesia

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BALIFOKUS NEXUS3

About me

Education and awards:

- Bachelor degree in Engineering, Environmental Engineering Department, ITB, 1990
- MSc in Environmental Change & Management, University of Oxford, 2011
- PhD candidate Medical Research - International Health, LMU, Munich 2015 - now
- Goldman Environmental Prize 2009
- Ashoka Fellow 2002
- LEAD Fellow 2001

Affiliation:

- Co-founder and Senior Advisor BaliFokus/Nexus3 Foundation
- International Pollutants Elimination Network (IPEN) - Steering Committee member
- IPEN - lead for ASM/Mining
- Indonesian Centre for Environmental Law (ICEL) - Board advisory
- Ashoka Indonesia - Chairperson
- Women Engage for Common Future (WECF) - International Advisor Board
- GAIA Asia-Pacific - Steering Committee

About us

BALIFOKUS



- URL: <https://www.balifokus.asia>
- Established in 14 June 2000.
- Re-branding as the Nexus for Environmental Health and Development Foundation (Nexus3 Foundation) as of 2019.
- Works to safeguard public, especially vulnerable populations, from environment, health and development problems, towards a toxic-free, just, and sustainable for future generations.



- International Pollutants Elimination Network (IPEN) - www.ipen.org, a global network of 600 *public interest* NGOs in 116 countries, working together for a toxics-free future
- Established in 1992
- Multi-lateral Environmental Agreements (MEAs)
- Persistent Organic Pollutants (POPs)
- Heavy metals: lead and mercury
- Chemicals safety



CONTENTS



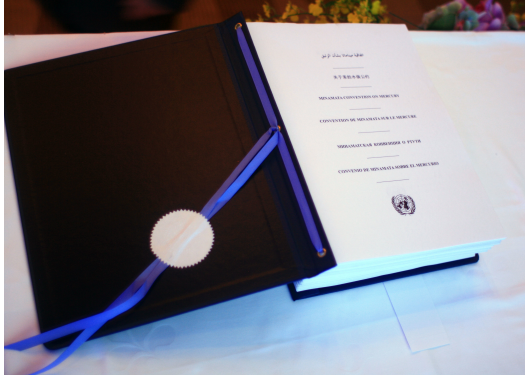
1 Indonesia and Minamata Convention

2 Mercury in Indonesia

3 Mercury added products

4 National Action Plans

Minamata Convention on Mercury



- Long-range transfer, bio-accumulate, bio-magnify
- Adopted by 128 countries in 10 Oct 2013 in Kumamoto
- Entered into force 16 Aug 2017
- As of 6 Aug 2019: ratified by 111 countries, incl. Indonesia (19 Sep 2017)



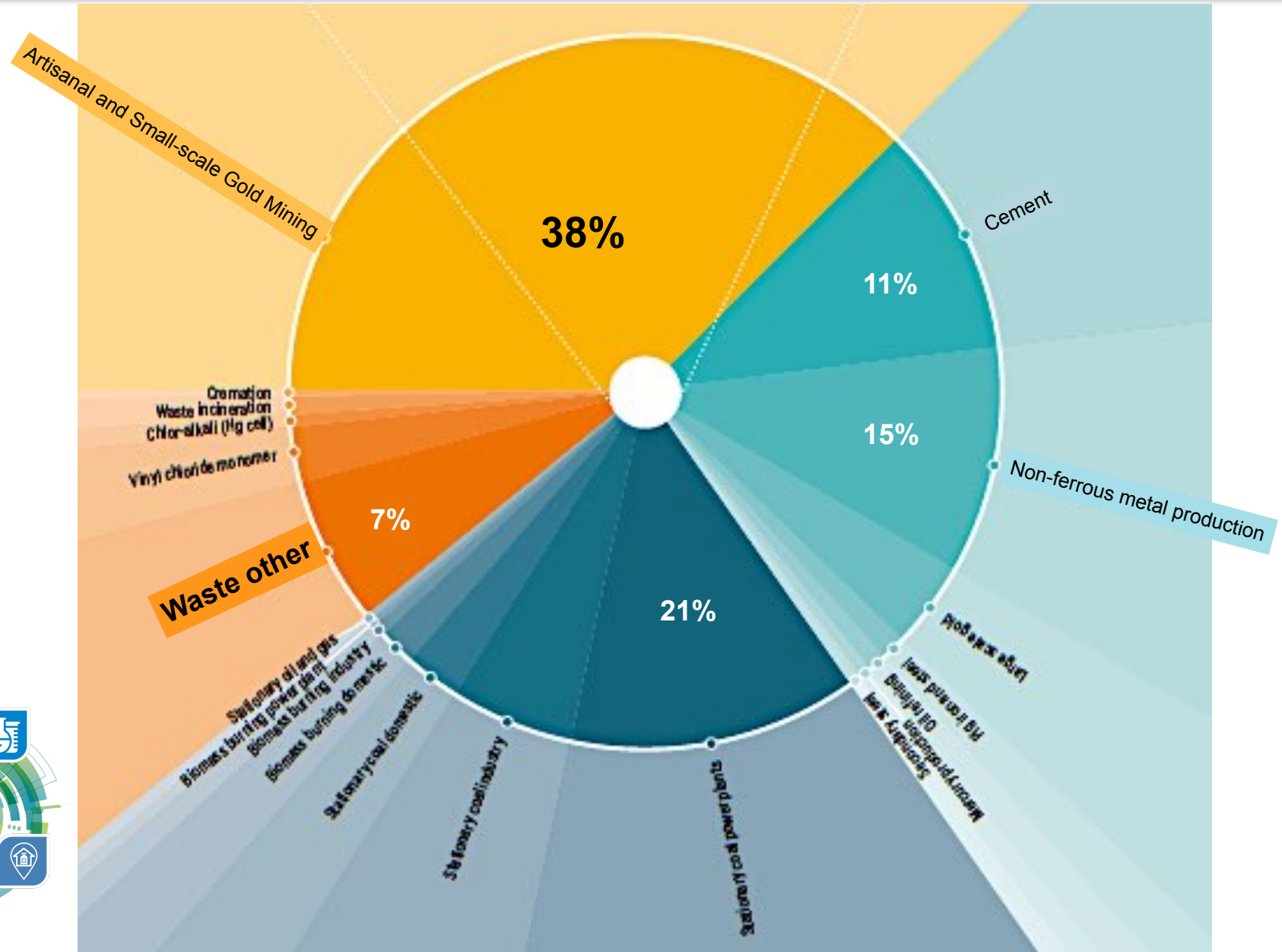
**COMOROS BRINGS TO 111 THE
NUMBER OF PARTIES TO THE
MINAMATA CONVENTION**

On 23 July 2019, the Government of Comoros deposited its instrument of ratification, thereby becoming the 111th Party to the Minamata Convention.

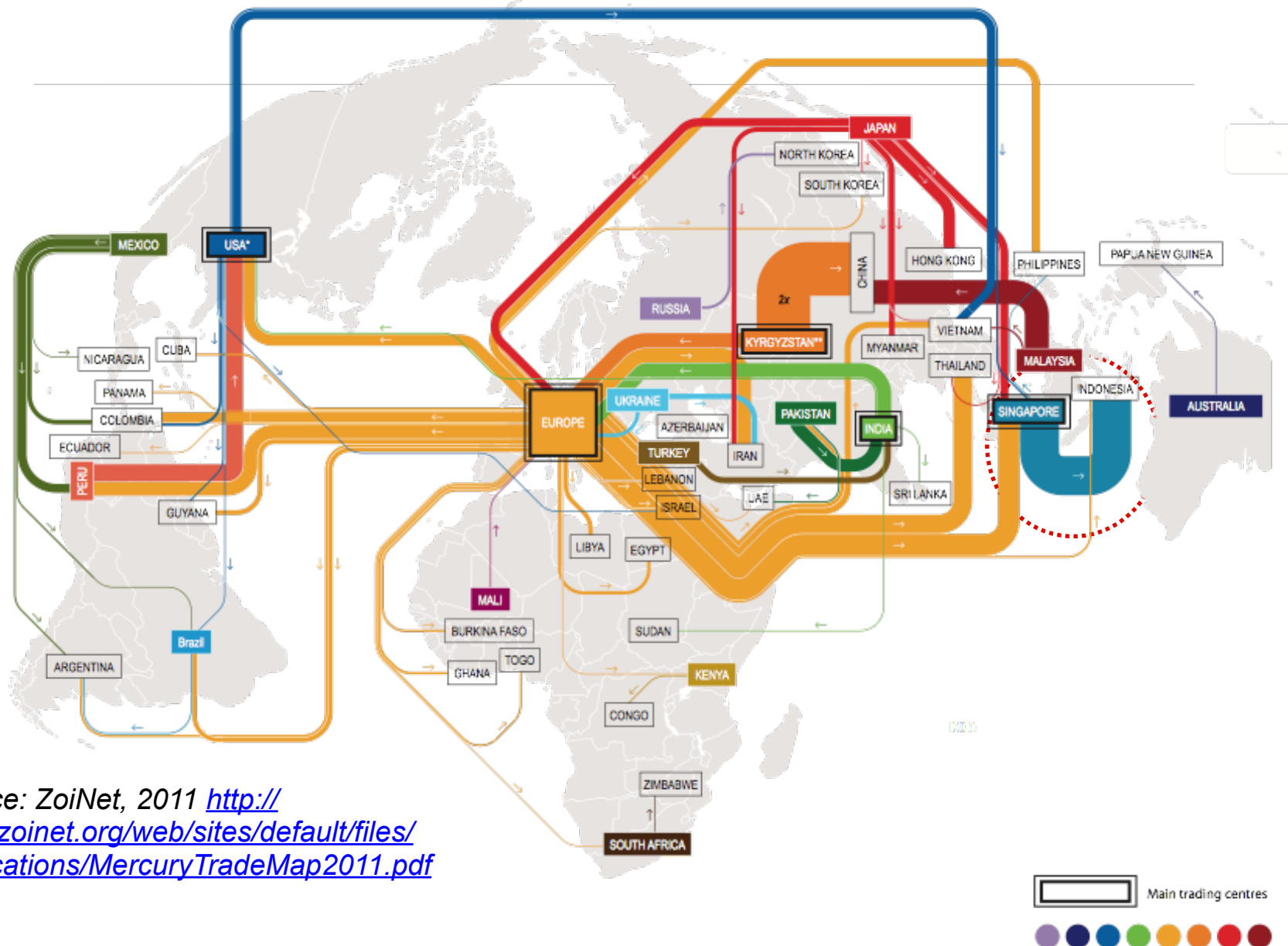
Hg treaty text: mercury added product

- 2015 new global inventory of mercury emissions to air from anthropogenic sources from 17 key sectors was about 2220 tonnes.
- Estimated global anthropogenic emissions of mercury to the atmosphere for 2015 are approximately 20% higher than they were in updated estimates for 2010.
- Emissions from waste that includes mercury-added products comprise about **7%** of the 2015 global inventory.
- Hg in lamps, batteries, and dental fillings also contributed to mercury emissions to air (and releases to water), largely during waste disposal.

Global Mercury Assessment 2018

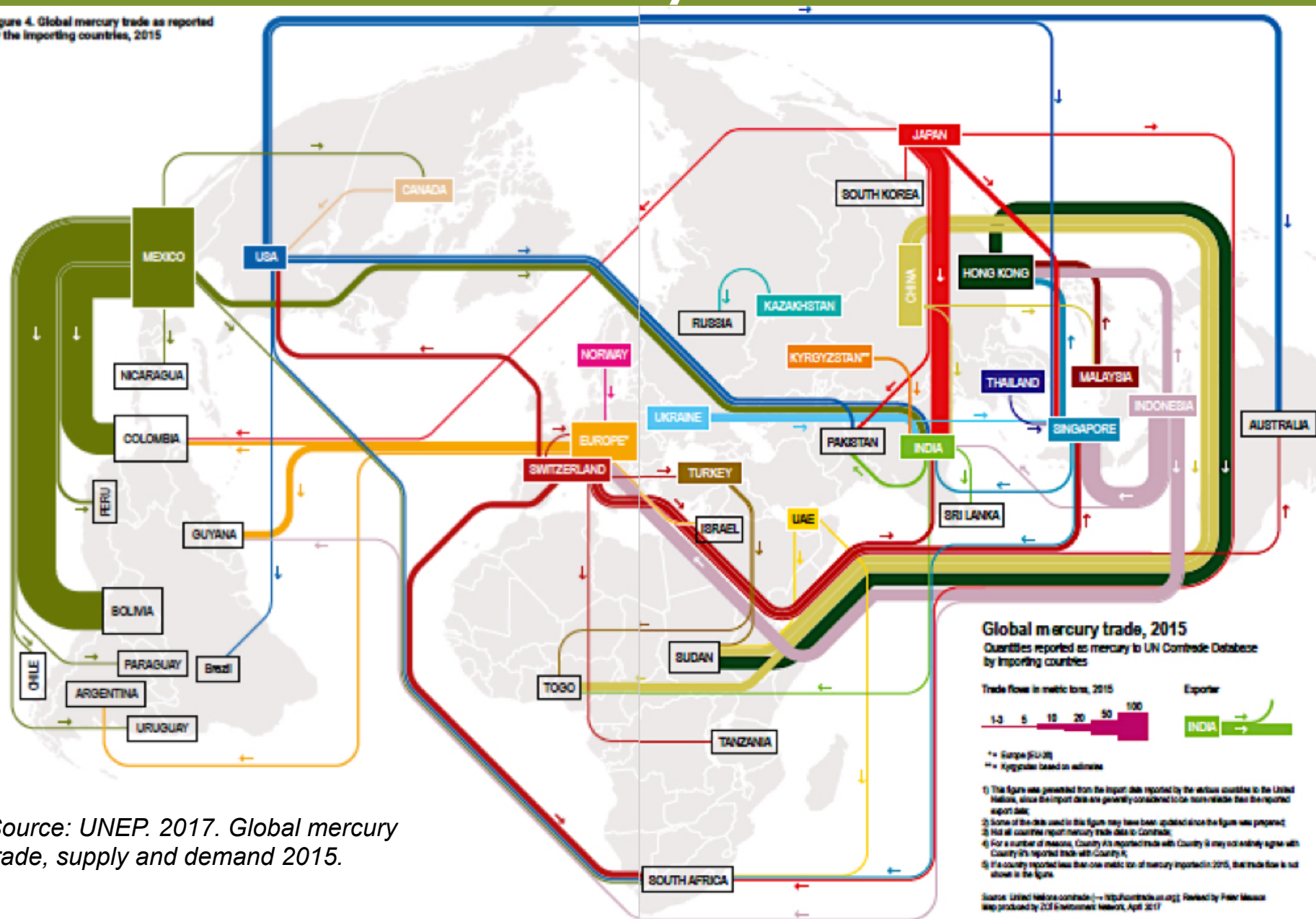


Global Mercury Trade 2012



Global Mercury Trade 2015

Figure 4. Global mercury trade as reported by the importing countries, 2015



Source: UNEP. 2017. Global mercury trade, supply and demand 2015.

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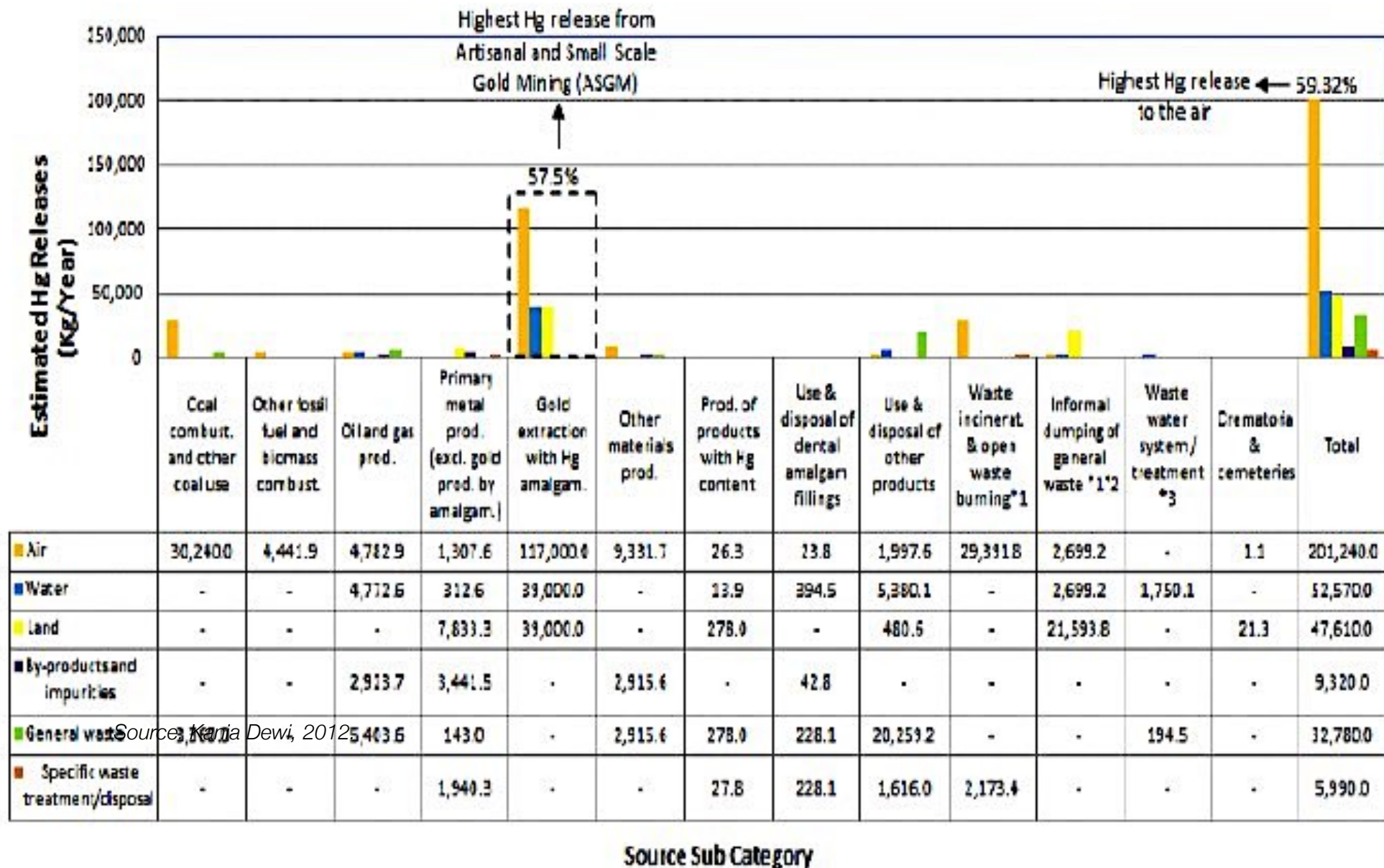


2 Mercury in Indonesia



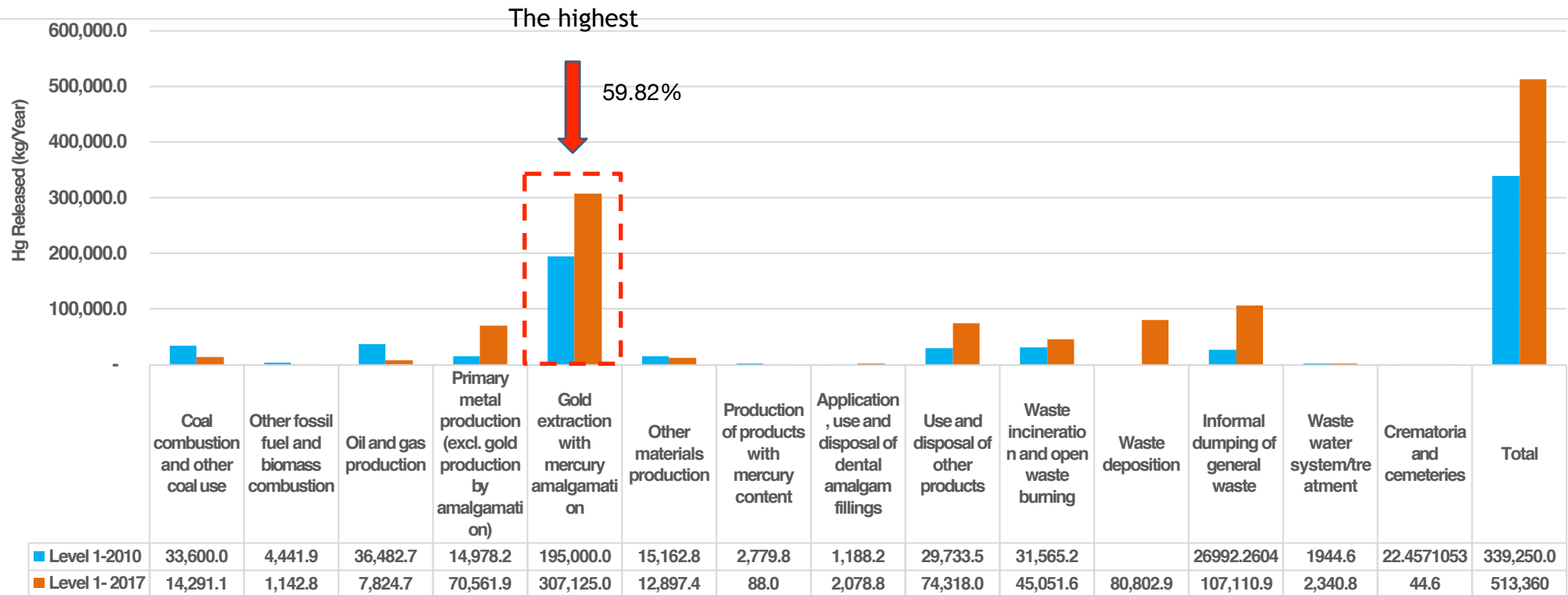
Mercury inventory in Indonesia 2012

(using UNEP mercury inventory toolkit level-1 ver. 2011)



Mercury inventory in Indonesia 2016

(using UNEP mercury inventory toolkit level-1 ver. 2012)



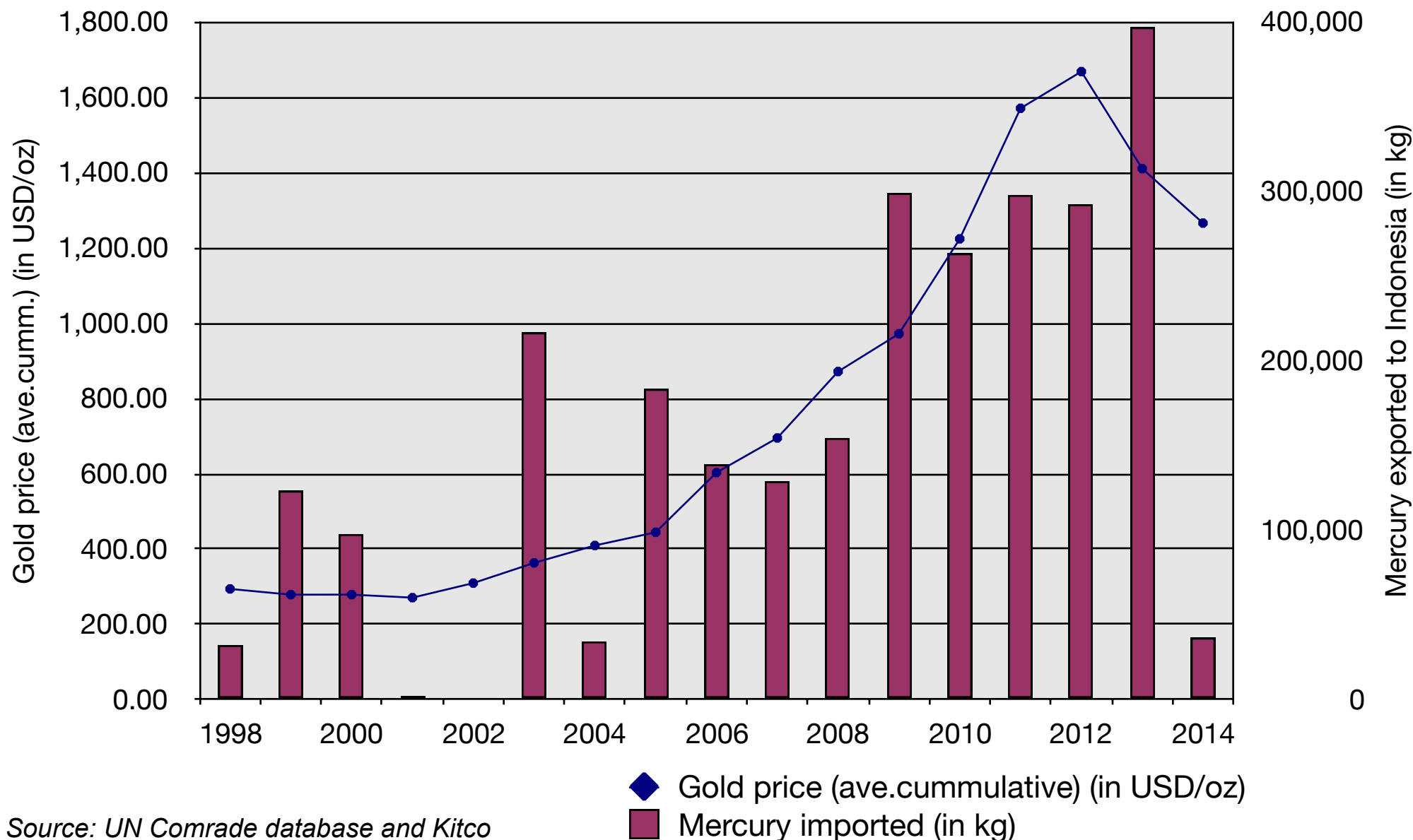
Source: Kania Dewi & Yuyun Ismawati, 2018. Mercury emissions and releases inventory in Indonesia 2016.

Inventory of mercury emissions and releases in Indonesia 2018

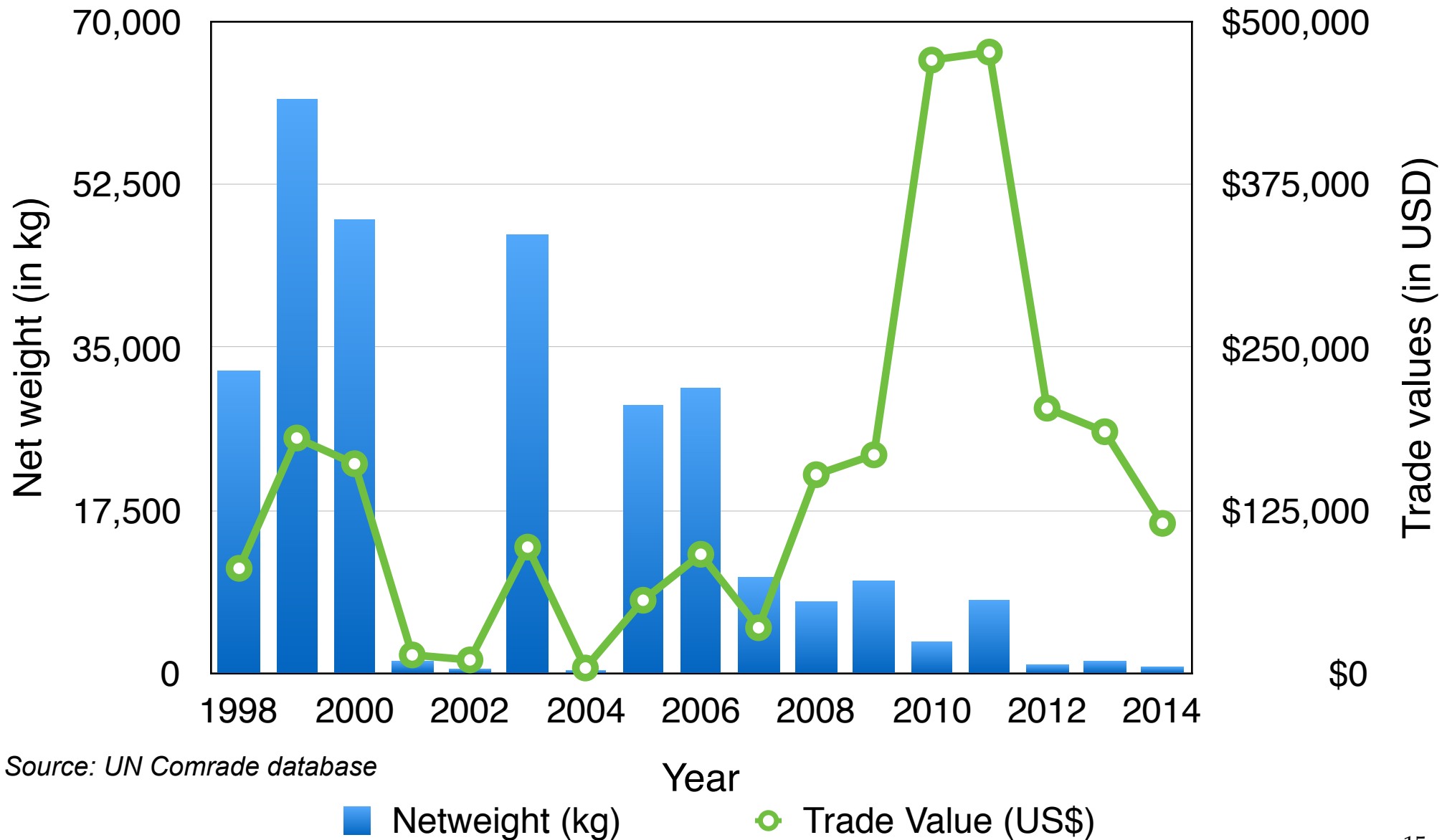
INVENTORY LEVEL 1 - EXECUTIVE SUMMARY

Source category	Estimated Hg input, Kg Hg/y	Estimated Hg releases, standard estimates, Kg Hg/y							Percent of total releases *3*4
		Air	Water	Land	By-products and impurities	General waste	Sector specific waste treatment / disposal	Total releases *3*4*5	
Coal combustion and other coal use	13,902.0	9,321.6	0.0	0.0	0.0	0.0	4,580.4	13,902	4%
Other fossil fuel and biomass combustion	8,621.8	8,537.5	0.0	0.0	0.0	0.0	84.3	8,622	2%
Oil and gas production	10,987.0	1,644.2	2,167.7	0.0	3,210.3	0.0	3,768.8	10,791	3%
Primary metal production (excl. gold production by amalgamation)	8,880.7	1,142.7	274.7	1.2	3,101.6	825.3	3,535.2	8,881	2%
Gold extraction with mercury amalgamation	244,125.0	77,538.8	3,545.0	83,041.3	0.0	0.0	0.0	244,125	64%
Other materials production*6	16,945.7	12,991.1	0.0	0.0	3,390.0	564.6	0.0	16,946	4%
Chlor-alkali production with mercury-cells	-	-	-	-	-	-	-	0	0%
Other production of chemicals and polymers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0%
Production of products with mercury content*1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0%
Application, use and disposal of dental amalgam fillings	1,958.7	39.2	861.8	156.7	117.5	391.7	391.7	1,959	1%
Use and disposal of other products	16,237.7	953.7	1,559.7	5.3	0.0	13,151.2	567.8	16,238	4%
Production of recycled metals	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0%
Waste incineration and open waste burning*2	30,966.2	29,815.2	0.0	0.0	0.0	0.0	1,151.0	30,966	8%
Waste deposition*2	146,250.0	1,462.5	14.6	0.0	-	-	-	1,477	0%
Informal dumping of general waste *2*3	110,500.0	11,050.0	1,050.0	88,400.0	-	-	-	22,100	6%
Waste water system/treatment *4	26,913.1	0.0	3,549.0	1,345.7	0.0	1,009.2	1,009.2	3,364	1%
Crematoria and cemeteries	44.7	1.1	0.0	43.5	0.0	0.0	0.0	45	0%
TOTALS (rounded) *1*2*3*4*5*6	350,280	154,500	99,470	84,590	9,820	15,940	15,090	379,410	100%
		44%	28%	24%	3%	5%	4%		

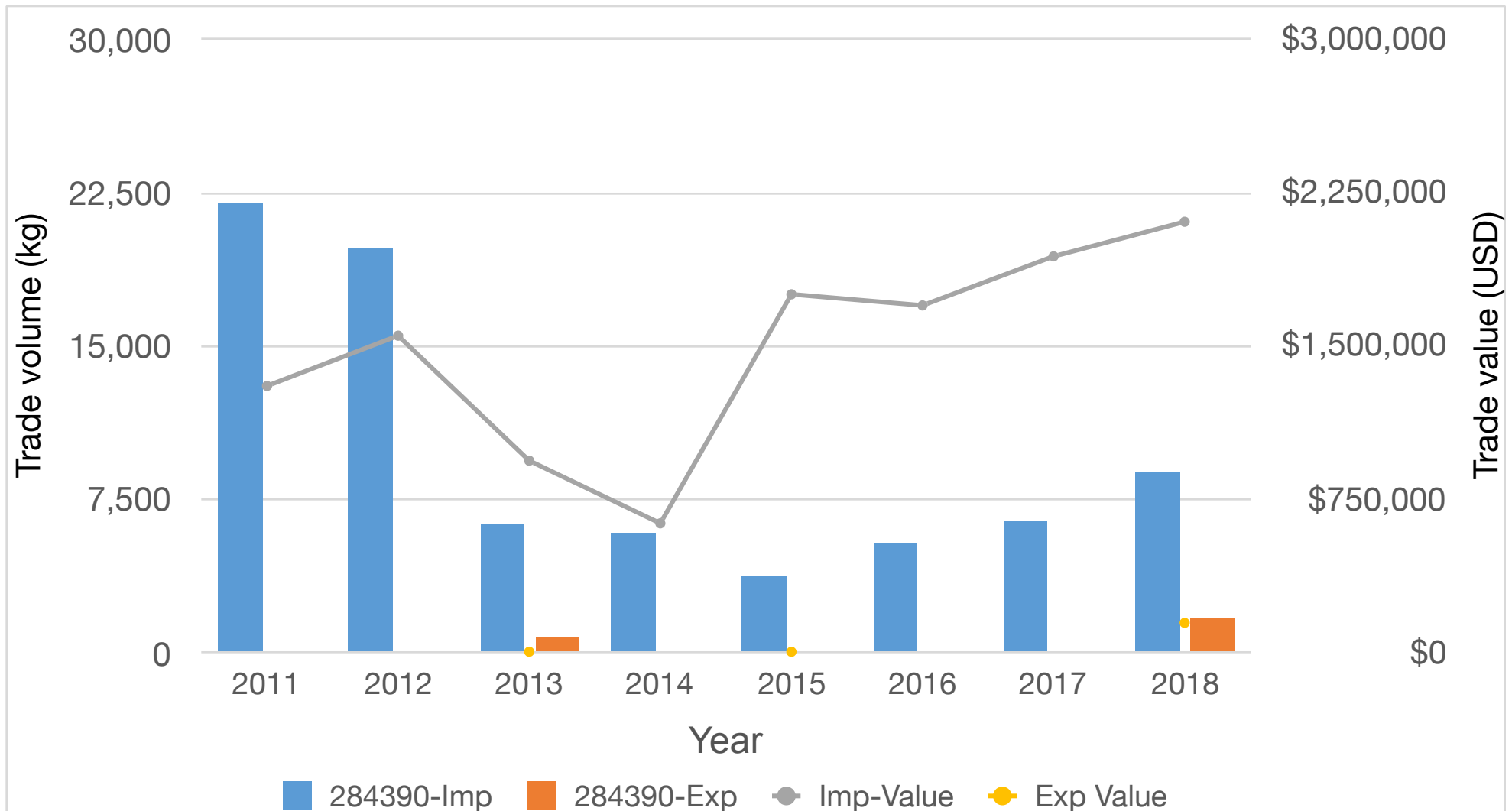
Mercury exported to Indonesia by trade partners 1998-2014 (HS 280540)



Mercury imported by Indonesia 1998-2014 (HS 280540)

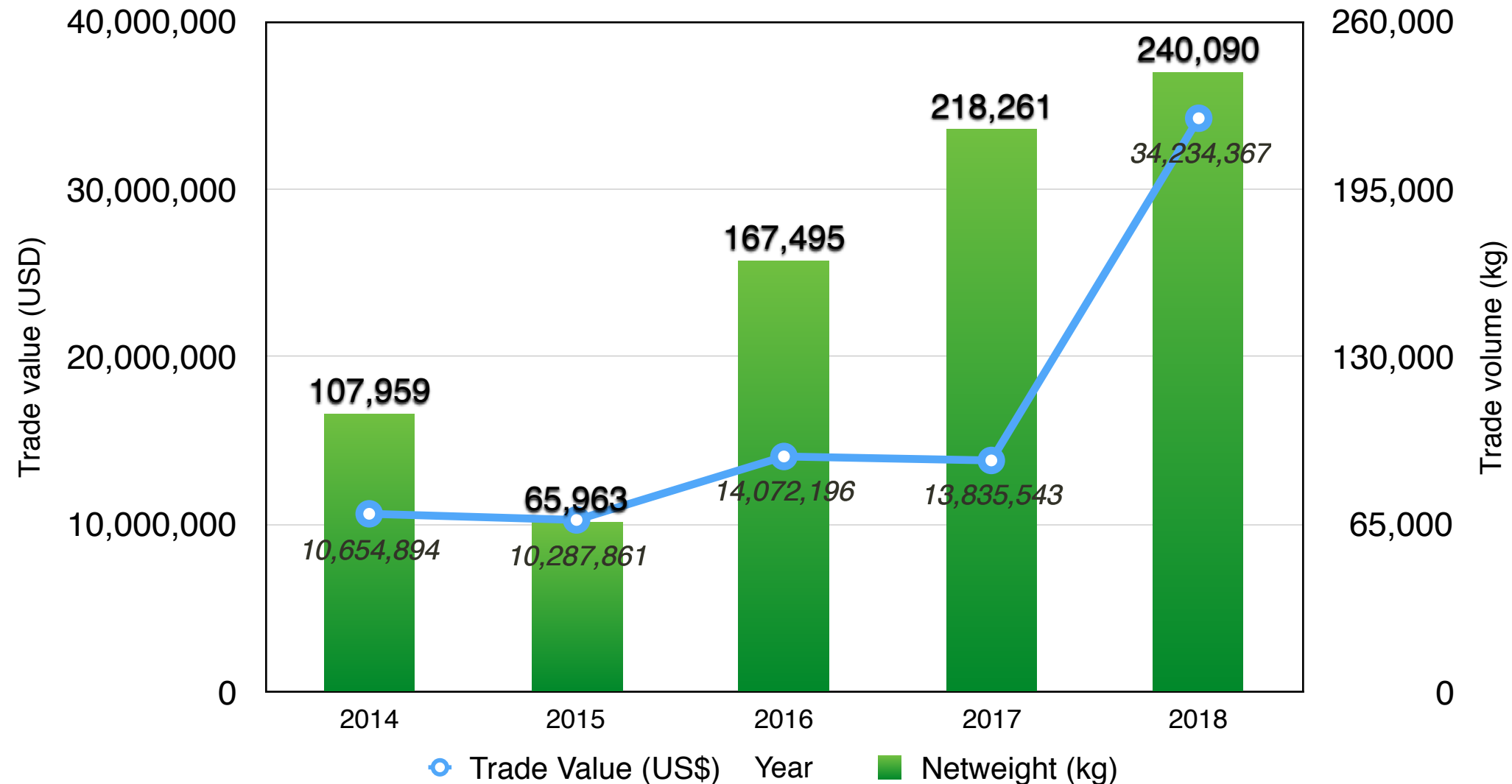


Export and Import of dental amalgam (HS 284390) 2011-2018



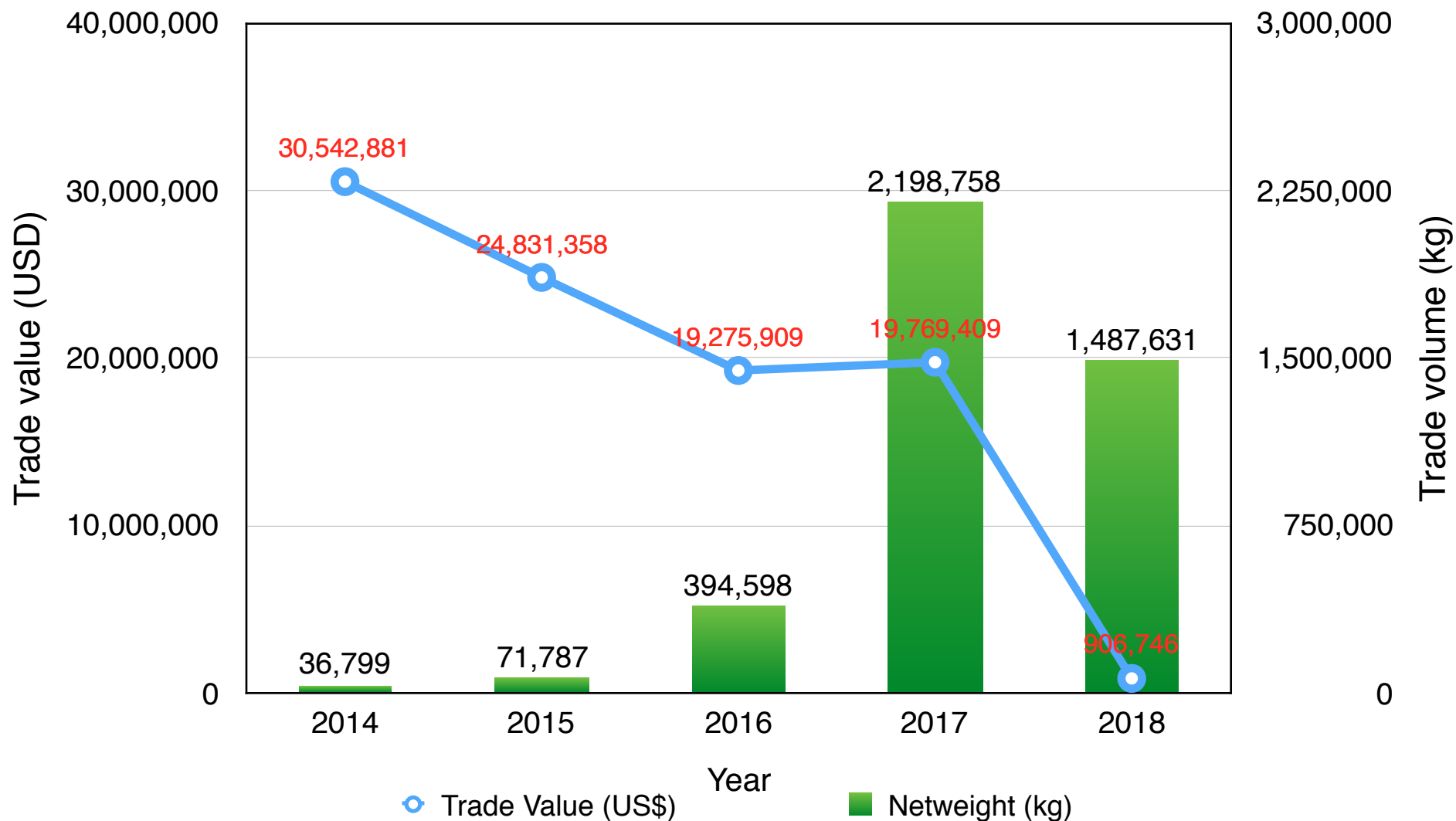
Source: Indonesian Bureau of Statistics

Indonesia imported HS 2843 from trade partners 2014-2018



Source: UN Comtrade database

Trade partners exported HS 2843 to Indonesia 2014-2018



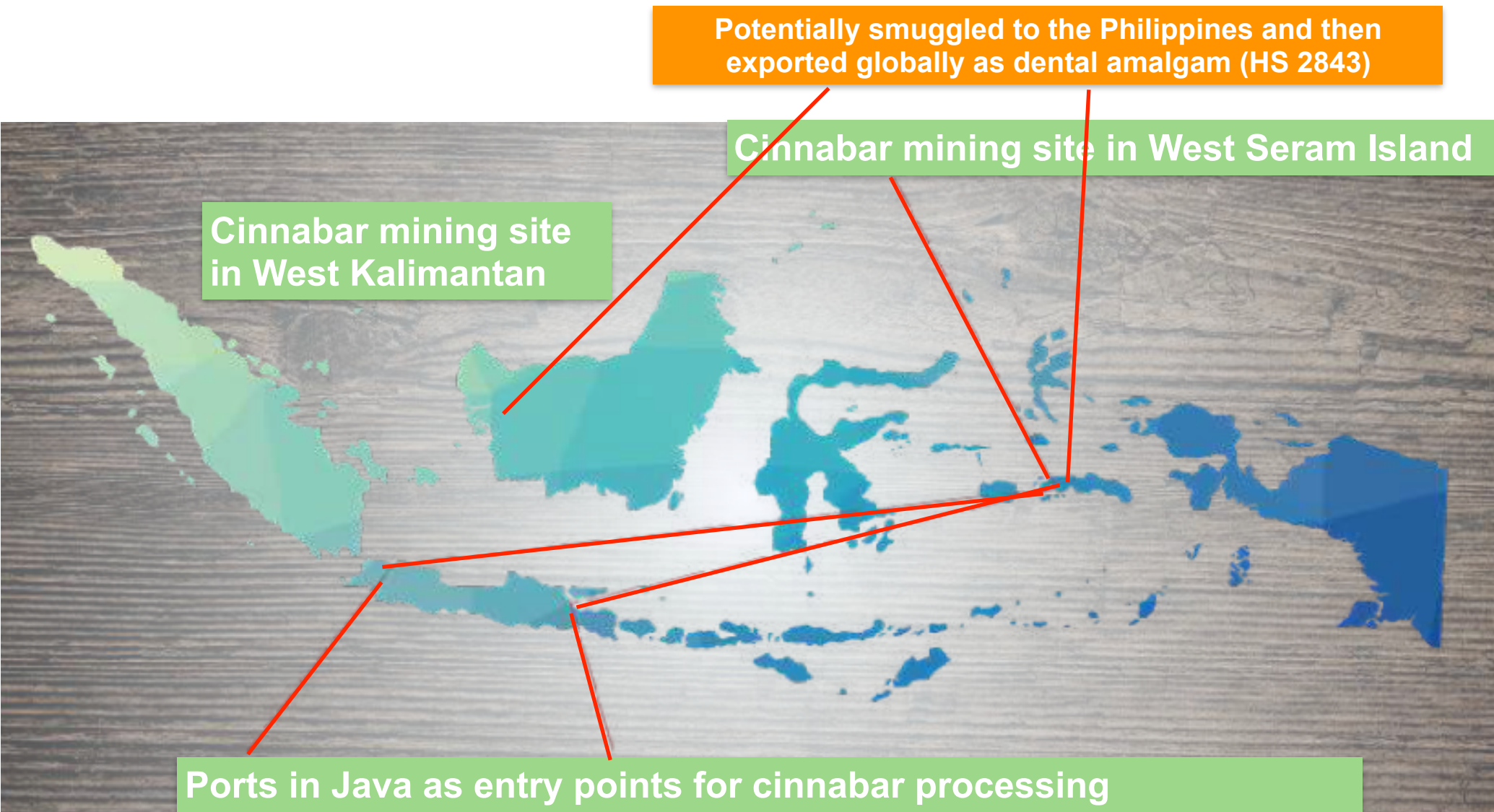
Source: UN Comtrade database

Sources of mercury in Indonesia (1/2)

- Sources of Hg in Indonesia:
 - Cinnabar mining
 - Impurities from oil and gas
- Refineries and smelters
- Trade flow: import and export



Sources of mercury in Indonesia (2/2)



Mercury sold in Indonesia (1/2)



Photo: Yuyun Ismawati/BaliFokus



Photo: Yuyun Ismawati/BaliFokus



Photo: Yuyun Ismawati/BaliFokus

Mercury sold in Indonesia (2/2)

DIJUAL MURAH
MERCURY / AIR RAKSA

Hub : Ir Eko Setiawan
0816-1823-953
087-887-5668-51

ALAMAT : PERUM. BULEVAR HIJAU
JL. PALEM HIJAU IV BLOK G 10 NO. 15 A
HARAPAN INDAH, BEKASI BARAT
(DEKAT PABRIK AQUA BEKASI BARAT)



Hg 80
200.59
Mercury



Mercury use in ASGM



Indonesia's Political Commitment



Ban Mercury Use in Traditional Mining, President Jokowi Instructs

Oleh: **Asisten Deputi Bidang naskah dan
terjemahan** ; Diposkan pada: **9 Mar 2017 ; 2930**

Views

Kategori: [News](#)



Cabinet Secretary Pramono Anung delivers a report to President Jokowi before a limited meeting on Thursday (9/3), at Presidential Office, Jakarta

President Joko 'Jokowi' Widodo said he received information that the use of mercury in 850 traditional mine sites has caused hazardous pollution.

"The pollution is not only dangerous to the health of 250 thousand miners, but also to the health of their

- 9 March 2017: Presidential instruction to ban mercury use in ASGM sector
- 19 Sep 2017: Indonesia ratified Minamata Convention on mercury
- Indonesian Law No. 11 year 2017
- Presidential Decree No. 21 year 2019 regarding National Action Plan to Reducing and Eliminating Mercury



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Mercury-added products



Mercury-based devices in health care facilities

- Thermometers
- Sphygmomanometers
- Dental amalgam
- Gastrointestinal tubes
- Laboratory chemicals
- Pharmaceutical products
- Electrical applications
- Medical waste incineration, open burning, burning in barrels, gasification, pyrolysis, etc.



Health care facilities in Indonesia

- Hospitals (2820)
- Primary Health Care Unit (9825)
- Health Clinic (7641)
- Health Laboratories
- Pharmacy (26.418)



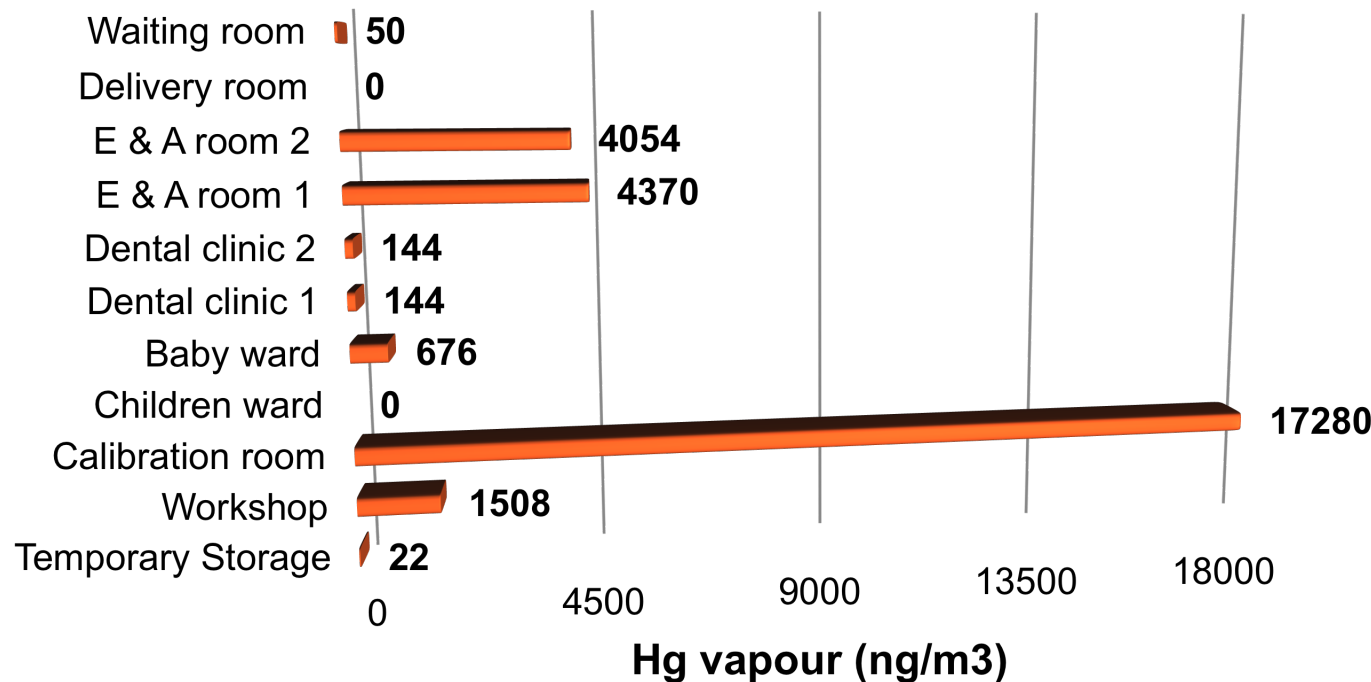
- Optic centre
- Forensic medical facilities
- Traditional health care facilities
- Independent clinics
- Blood transfusion centre

Mercury-free hospitals

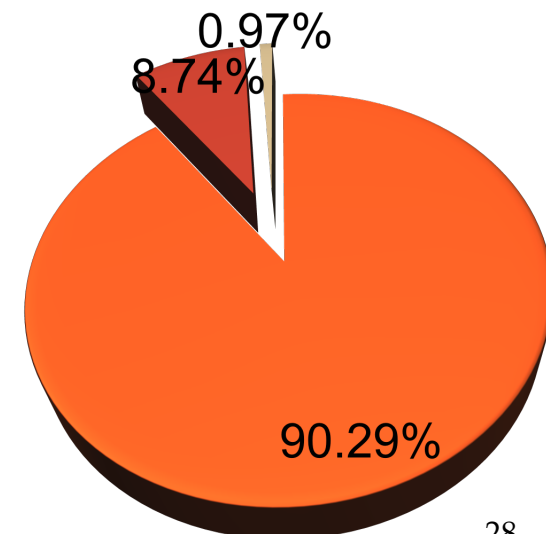
- 10 hospitals in Bali
- Baseline, target set (3 years)
- Capacity building
- Temporary storage
- Monitoring



Sampling points



- < 1.000 ng/m3
- 1.000 - 10.000 ng/m3
- > 10.000 ng/m3



Mercury-based devices in health care facilities in Indonesia

- 2011-2014: Pilot project Hg-free hospitals in Bali in collaboration with the association of medical devices suppliers
- 2015-2016:
 - Consultation process to develop National Action Plan health sector
 - Hg-free healthcare replication in 2 provinces
- 2016:
 - Minister of Health Decree No. 57 year 2016 concerning the National Action plan to control mercury impact on human health. Announcement/circular.
 - Dental association do not use amalgam anymore
 - Dental faculty curriculum changed.
- 2017: Indonesia ratified the Minamata Convention. Circular distributed.
- 2018:
 - 26.6% healthcare facilities do not use hg-based medical devices.
 - 13,037 hg-based thermometer
 - 6,320 sphygmomanometer
 - 129 unused dental amalgam capsules in hospitals



Summary of stakeholders meeting in Jakarta, 30 July 2019

1. Efforts to eliminate and withdrawal of mercury-based medical devices in healthcare facilities require good synergy and collaboration between the Ministry of Health and the Ministry of Environment & Forestry and the relevant stakeholders.
2. The role of the regional/sub-national government, particularly the Health Service and Health Service Facilities at the Provincial/ District/City level need to be strengthened especially in disseminating the Presidential Decree No. 21 year 2019 concerning the National Action Plan to Reduce and Eliminate Mercury.
3. The Ministry of Health and the Provincial/District/City Health Agencies facilitate activities and conducting an inventory of mercury-based medical devices in all health care facilities. The list should include the types and number of mercury-based medical devices. The inventory shall be conducted as soon as possible so that further steps can be made especially regarding the collection locations and mechanisms.

Summary of stakeholders meeting in Jakarta, 30 July 2019

4. The Ministry of Health, through the Director-General of Health Services, has sent out a circular which includes steps to remove and withdraw the mercury medical devices.
5. Inventory of mercury-based medical devices must distinguish the condition of devices, and those that are damaged or broken. That way, the withdrawal of devices can be made safely and in an environmentally sound manner to comply with the relevant regulations.
6. The Ministry of Health is currently preparing guidelines for the elimination and withdrawal of mercury-based medical devices in healthcare facilities all over Indonesia.
7. The Ministry of Environment and Forestry is now preparing guidelines for handling mercury-based medical devices from healthcare facilities and storage depots.
8. The Ministry of Environment and Forestry will provide mercury storage depots at the provincial level according to the mandate of Presidential Decree No. 21 year 2019 or adjust it according to the distribution of locations.
9. The mechanism for the elimination of mercury-based medical devices refers to the applicable laws regarding the property of the State.

Challenges

Status of hg-free health
care facilities in 2018:
26,6 %

Limited time
to meet the
target

Replacement

Procurement

Lack of
hazardous
wastes
transporters
and temporary
storage

On-site vs off-site
treatment and
storage

Target 100% by 2020
Integrated in the
Local Action Plan



Milestones of on-going efforts

Short-term plan

Aug - Dec 2019

1. Circular letter issued by DG healthcare facilities and DG medical devices
2. IEC materials development
3. Technical guidance document developed
4. Minister of Health Decree regarding withdrawal of hg-based medical devices issued and enforced.

Medium-term plan

Sep 2019 - Dec 2020

1. Socialisation
2. Training for health workers
3. Implementation
4. Integration of e-money for waste management and mercury devices
5. Coordination and synergy with relevant ministers and stakeholders
6. Hospital accreditation



Long-term plan

2020 - Dec 2022

1. Implementation of withdrawal 100%
2. Temporary storage available
3. Transfer depo available at sub-national level
4. Integration with national mercury storage

PEDOMAN MEKANISME PENGHAPUSAN DAN PENARIKAN ALAT KESEHATAN BERMERKURI DI FASILITAS PELAYANAN KESEHATAN

Kementerian Kesehatan RI
2019



HAPUS ALAT KESEHATAN BERMERKURI



**PENGUNAAN
MERKURI SANGAT
BERBAHAYA
BAGI KESEHATAN
MANUSIA DAN
LINGKUNGAN**

UU No. 36 Tahun 2009 tentang
Kesehatan mengenai Teknologi dan
Produk Teknologi pasal 42 ayat 3)



UU No 11 Tahun 2017
tentang pengesahan
Konvensi Minamata



Peraturan Presiden No. 21
Tahun 2019 tentang Rencana
Aksi Nasional Pengurangan
dan Penghapusan Merkuri

Thank you for working hard
towards a mercury-free world
感谢您为无汞世界而努力



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