



COP-4 INDONESIA
ONLINE 1-5 NOVEMBER 2021
 BALI 21-25 MARCH 2022
MAKE MERCURY HISTORY



**MINAMATA
 CONVENTION
 ON MERCURY**

REDUCING MERCURY USE IN ASGM IN INDONESIA: IMPLEMENTING LOCAL ACTION PLANS TO ADDRESS STORAGE, TRADE, AND MONITORING

The event will share critical issues of a multi-year joint project in Indonesia, including developing Local Action Plans (LAP), health promotions, adaptation of interim storage, mercury trade and supply issues, and monitoring mercury impacts using ecosystem sensitivity and risk mapping. We would like to share the Indonesian approaches with other regions where ASGM is prevalent.

LIST OF SPEAKERS

- Yuyun Ismawati, Nexus3, host/moderator
- Yun Insiani, MoEF Indonesia, DG of Solid Waste, Hazardous Substances and Hazardous Waste
- Dyah Paramita, CRPG
- Lee Bell, IPEN
- David Evers, BRI

INTERPRETER TO BAHASA INDONESIA

- Eric Hireka

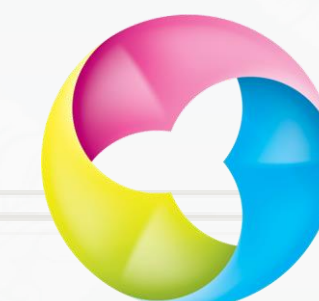
INTERPRETER TO SPANISH

- Carmen Capriles



MONDAY, 7 MARCH 2022

15H30-16H30 CET



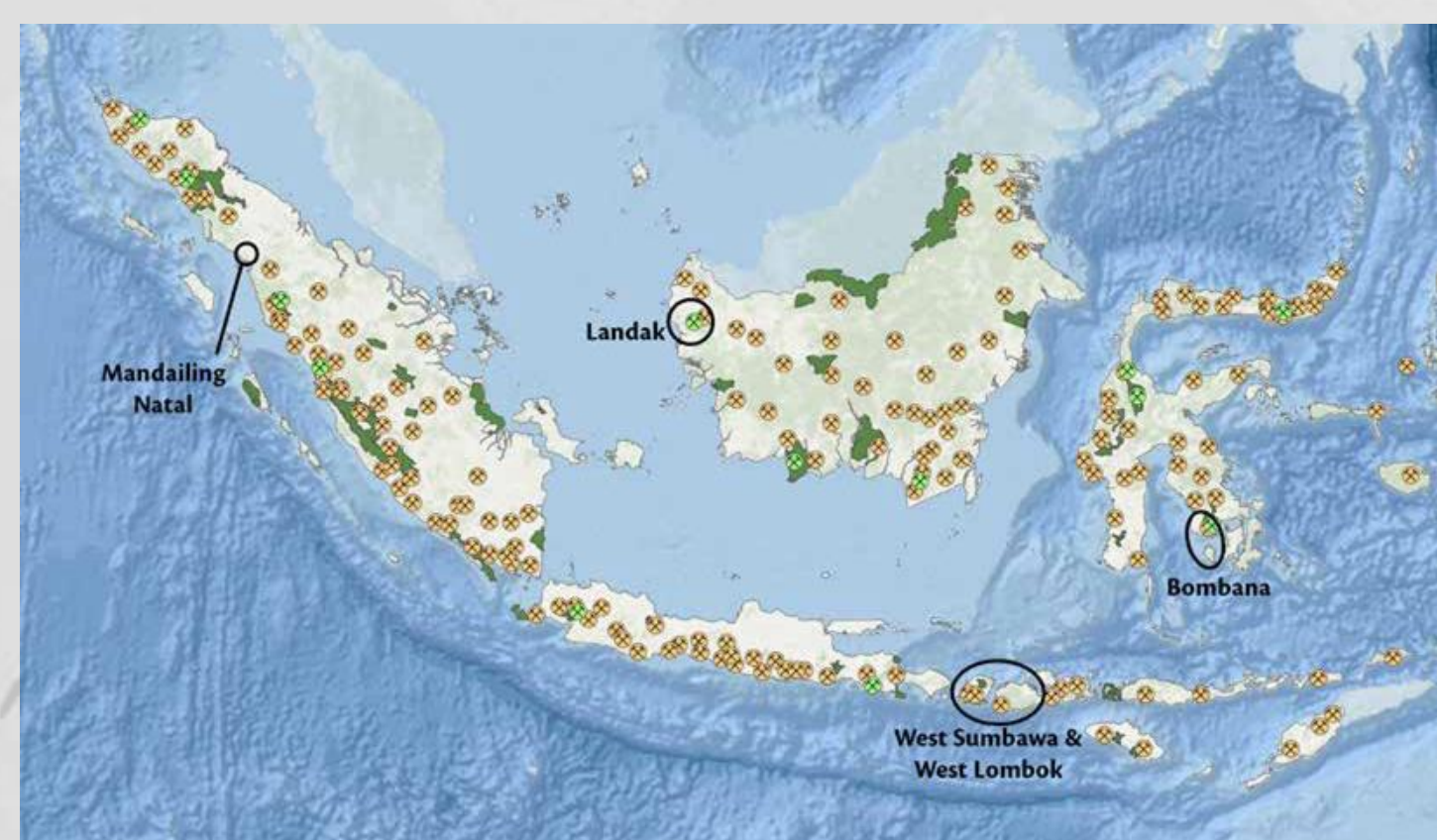
REDUCING MERCURY USE IN ASGM IN INDONESIA: IMPLEMENTING LOCAL ACTION PLANS TO ADDRESS STORAGE, TRADE, AND MONITORING

Component-1

Assisting the development of national & local plans and policy to restrict mercury supplies from primary mining and to restrict mercury by-products from oil and gas.

Objectives:

- Prepare and adopt needed amendments to the National Implementation Plan and Roadmap for mercury reduction and elimination to include prohibitions on cinnabar mining, recirculation of mercury from oil and gas and mining sectors, and export of mercury.
- Develop and adopt policy guidance prohibitions on cinnabar mining throughout the country, and on recirculation of mercury recovered from by-products of oil and gas and mining sectors to the market.
- Develop policy guidance and/or legislation to prohibit export of elemental mercury and cinnabar ore from the country.
- Advise relevant ministries to revise/update regulations to support the recommendations of this project.
- Assist Government with implementation and monitoring of policies and/or legislation.



Component-2

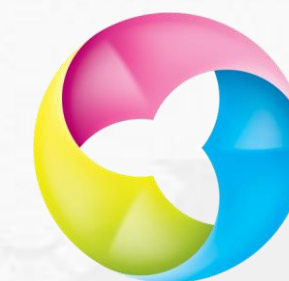
Assisting the development of national & local plans and policy to monitor mercury supplies and trade and provide capacity buildings for stakeholders.

Component-3

Developing recommendations for mercury storage for confiscated mercury and mercury waste.

Component-4

Developing strategy and recommendations for mercury monitoring in ASGM hotspots



Yun Insiani

Lead Expert for Environmental Impact Controller
Directorate General for Solid Waste, Hazardous
Substances and Hazardous Waste
Ministry of Environment and Forestry
Indonesia



Welcoming Remarks





Dyah Paramita

Legal Researcher
Centre for Regulations, Policy,
and Governance
Indonesia



Indonesia's Mercury Trade and Supply Issues

7 March 2022

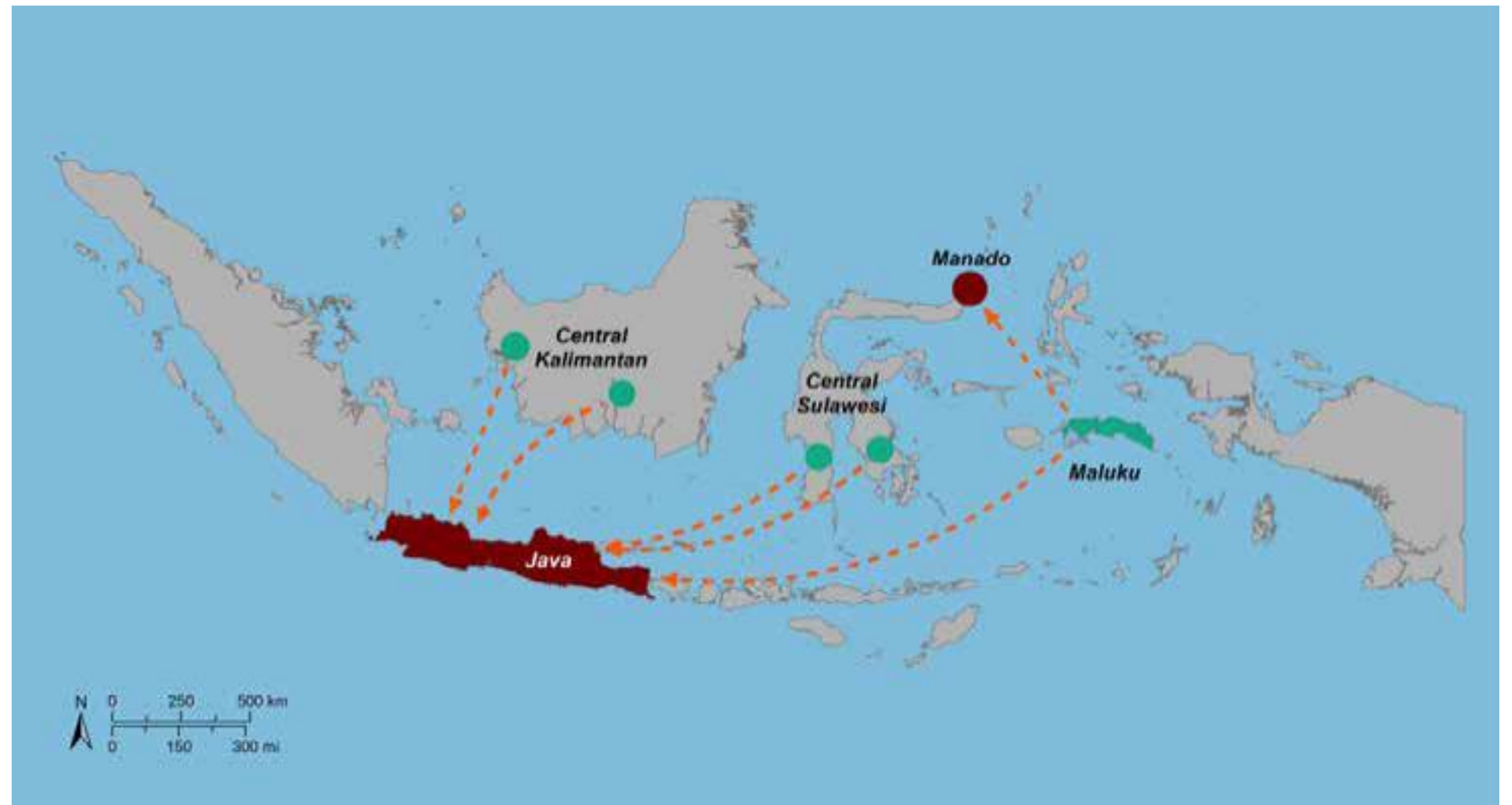
DYAH PARAMITA

Center for Regulations, Policy and Governance

mita@crpg.info

Status of Mercury Supply and Trade

1. Indonesia has primary mercury (cinnabar) mining (e.g. located in Seram island, Buru island)
2. Mercury is still widely used in ASGM in Indonesia
3. Illegal trade and distribution of mercury is still happening (smuggling, online platforms)













Mercury source locations (green), Mercury processing locations (brown). See our brochure at: <https://briwildlife.org/hgcenter/artisanal-small-scale-gold-mining/asgm-projects-indonesia/>



Cinnabar miners in Seram Island, 2018/2019 (Nexus3 documentation)

Menampilkan 116 produk untuk "air raksa hg" (1 - 60 dari 116)

Urutkan: Paling Sesuai

 <p>silver raksa HG air perak quick 1 kg Rp1.150.000 Kab. Purwakarta 5.0 Terjual 34</p>	 <p>air perak / raksa 1kg Rp1.350.000 Kab. Cianjur 5.0 Terjual 13</p>	 <p>air perak HG raksa 1 kg Rp1.250.000 Kab. Cianjur</p>	 <p>air perak silver air raksa Hg Rp1.350.000 Kab. Cianjur 5.0 Terjual 3</p>	 <p>air raksa hg quick Rp1.250.000 Kab. Cianjur</p>
 <p>AIR RAKSA HG 99.99%SPANYOL(1KG) Rp1.250.000 Kab. Sidoarjo 4.9 Terjual 25</p>	 <p>HG/Raksa/air penangkap emas Rp1.198.000 Kab. Bekasi Terjual 1</p>	 <p>AIR RAKSA HG 99.99% AKTIF (250GRM) Rp350.000 Kab. Sidoarjo 5.0 Terjual 36</p>	 <p>thermometer termometer air tanah raksa hg mercu... Rp60.000 Jakarta Barat 5.0 Terjual 29</p>	 <p>silver raksa HG air perak quick 1 kg Rp1.150.000 Kab. Purwakarta 5.0 Terjual 34</p>

Tokopedia e-commerce (personal documentation)

Challenges

Regulatory Framework

1. Mercury is not necessarily a “prohibited substance.” It can be imported (for non mining and cosmetic industrial purposes) and it can be exported;
2. Mercury is not listed as a prohibited substance to be traded under LARTAS (prohibition and restriction) policy;
3. Mercury trade through the online platform/e-commerce is not yet regulated;
4. The policy for phasing out of mercury in products is partial.

Law Enforcement

1. Possessing mercury is not necessarily a crime. It has to be proven in the court and the source of the mercury must be proven to be from criminal activities (long process);
2. Law enforcement still focuses on small players (not masterminds);
3. There is a need to identify safe methods to store confiscated mercury and the withdrawal of mercury from the market;
4. Guidance is needed to implement court orders regarding “the destruction” and/or “the disposal” of mercury.

Thank you





Lee Bell

POPs and Mercury Advisor
IPEN
Australia



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MAKE MERCURY HISTORY



for a toxics-free future

COP 4.2 Online side-event

Mercury in Indonesia: Reducing supply and availability

Focus on Multi-Tier Mercury Storage



Lee Bell

IPEN Mercury and POPs Policy Advisor

March 7 2022

Objective: Propose a sustainable system of mercury and cinnabar storage and potential disposal options for Indonesia

•Challenges for Indonesia:

- Widespread, decentralised illicit import and trade in mercury for ASGM
- Illicit domestic cinnabar mining and mercury production
- No current interim storage infrastructure meeting full ESM
- No elemental mercury waste treatment and stabilisation facility
- No current elemental mercury disposal facility
- Developing sustainable financing of all interim and long-term Hg storage



Environmentally sound storage of mercury

Reduces overall environmental contamination and human exposure.

Reduces specific exposure to authorities who confiscate and handle illicit mercury supplies as well as legal mercury.

Provides a safe and secure destination for confiscated or surplus mercury.

Reduces exposure to medical workers phasing out mercury containing devices.

Can prevent recirculation into ASGM if correctly secured and traced.

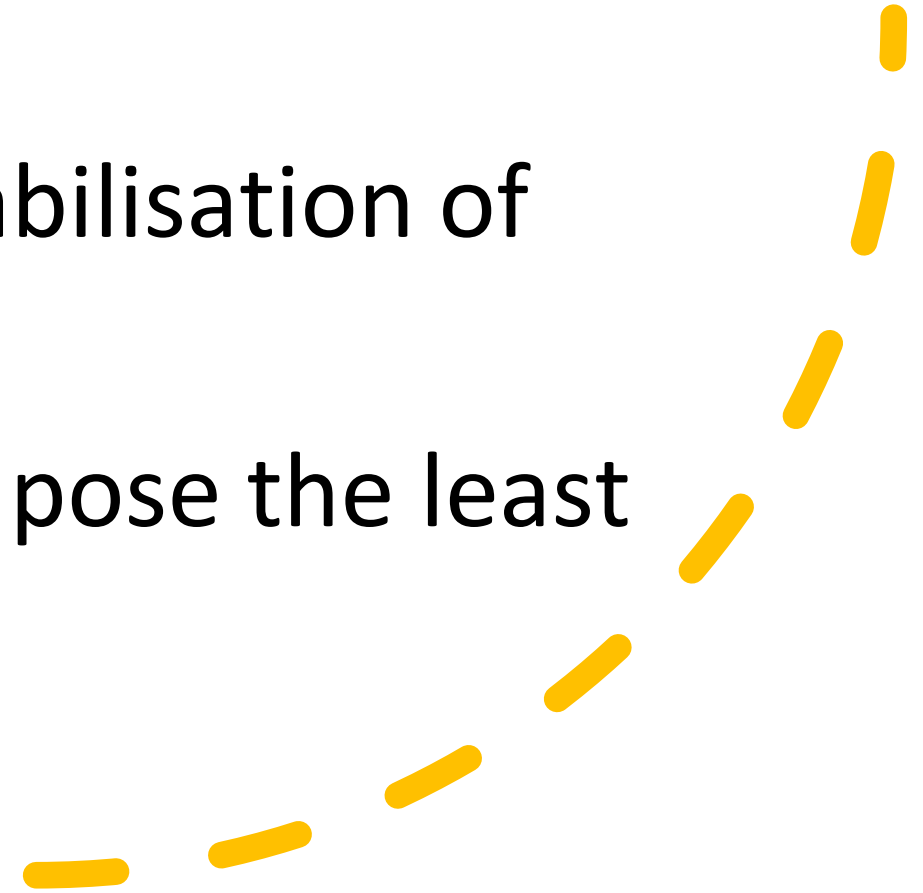
Assists national inventory and stockpile reporting

Facilitates the establishment of mercury treatment and stabilisation infrastructure.

Tier 1 storage – high standard final disposal

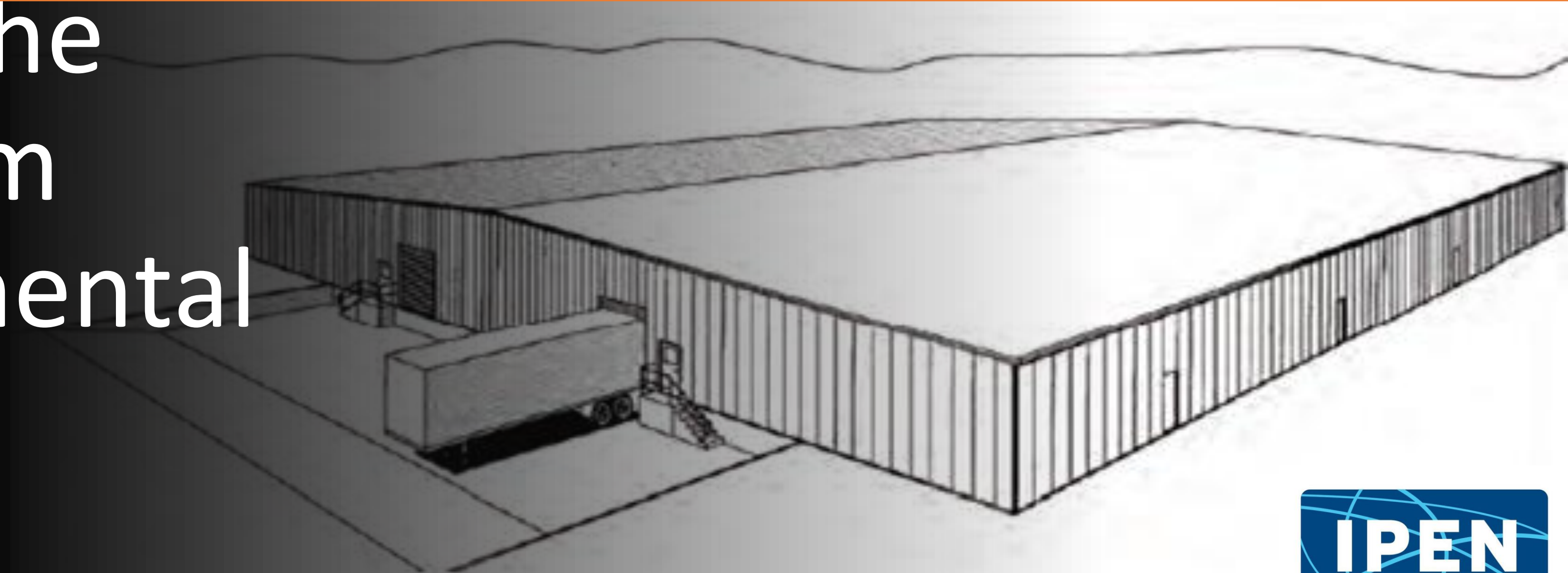
A single national storage/disposal facility ideally incorporating a elemental mercury treatment/stabilisation facility.

This provides:

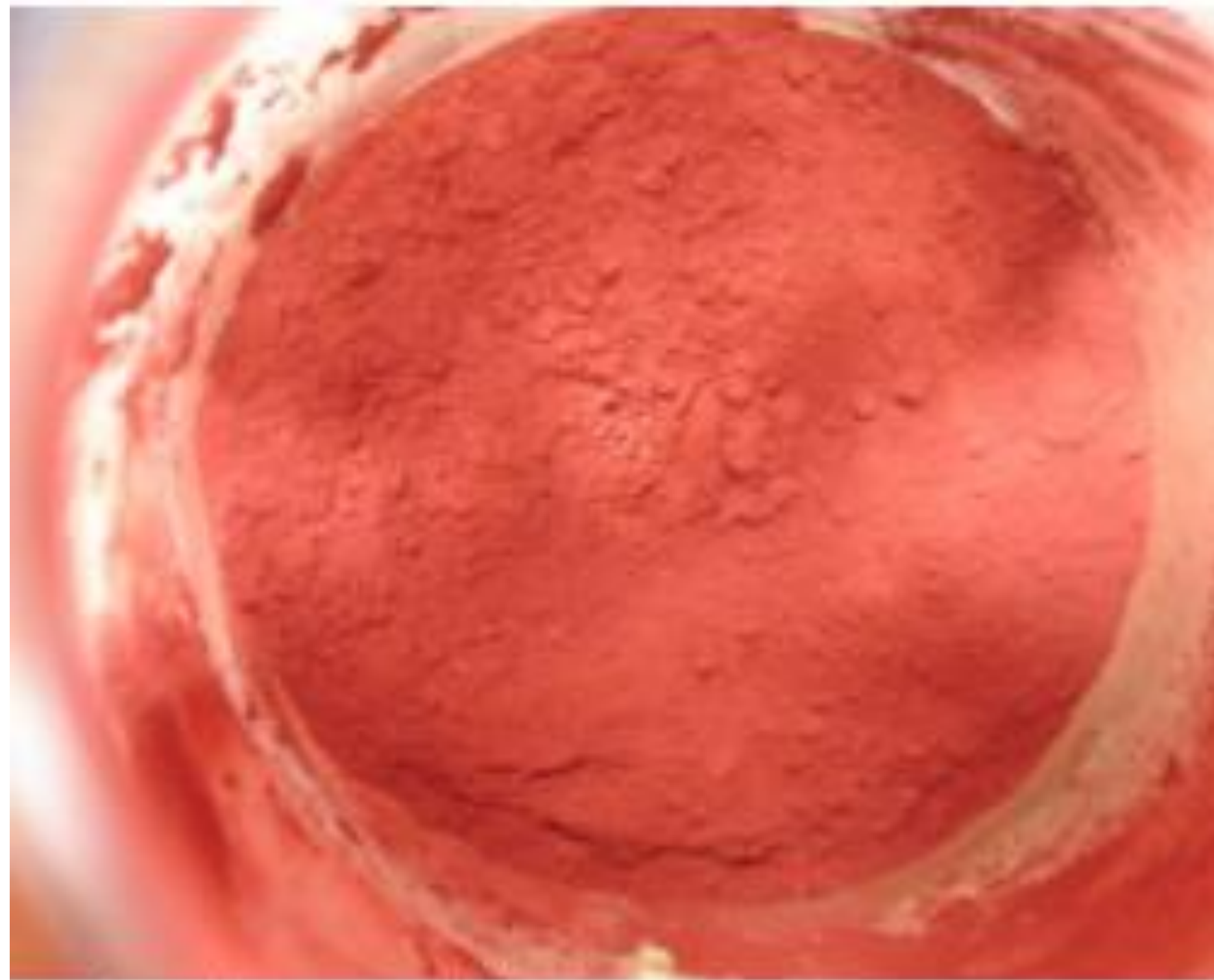
- A final destination for mercury in Indonesia either stored in elemental form but preferably stabilised to mercury sulphide or polymer to prevent reuse in ASGM.
 - An alternative to expensive mercury waste export that lacks traceability and can be reimported for ASGM.
 - A mercury waste treatment and stabilisation plant that can operate on a commercial basis for industrial wastes generators to offset costs associated with treatment and storage of confiscated mercury.
 - A potential regional facility for treatment/stabilisation of mercury waste.
 - A mercury waste disposal site that is sited to pose the least environmental and human health risk.
- 



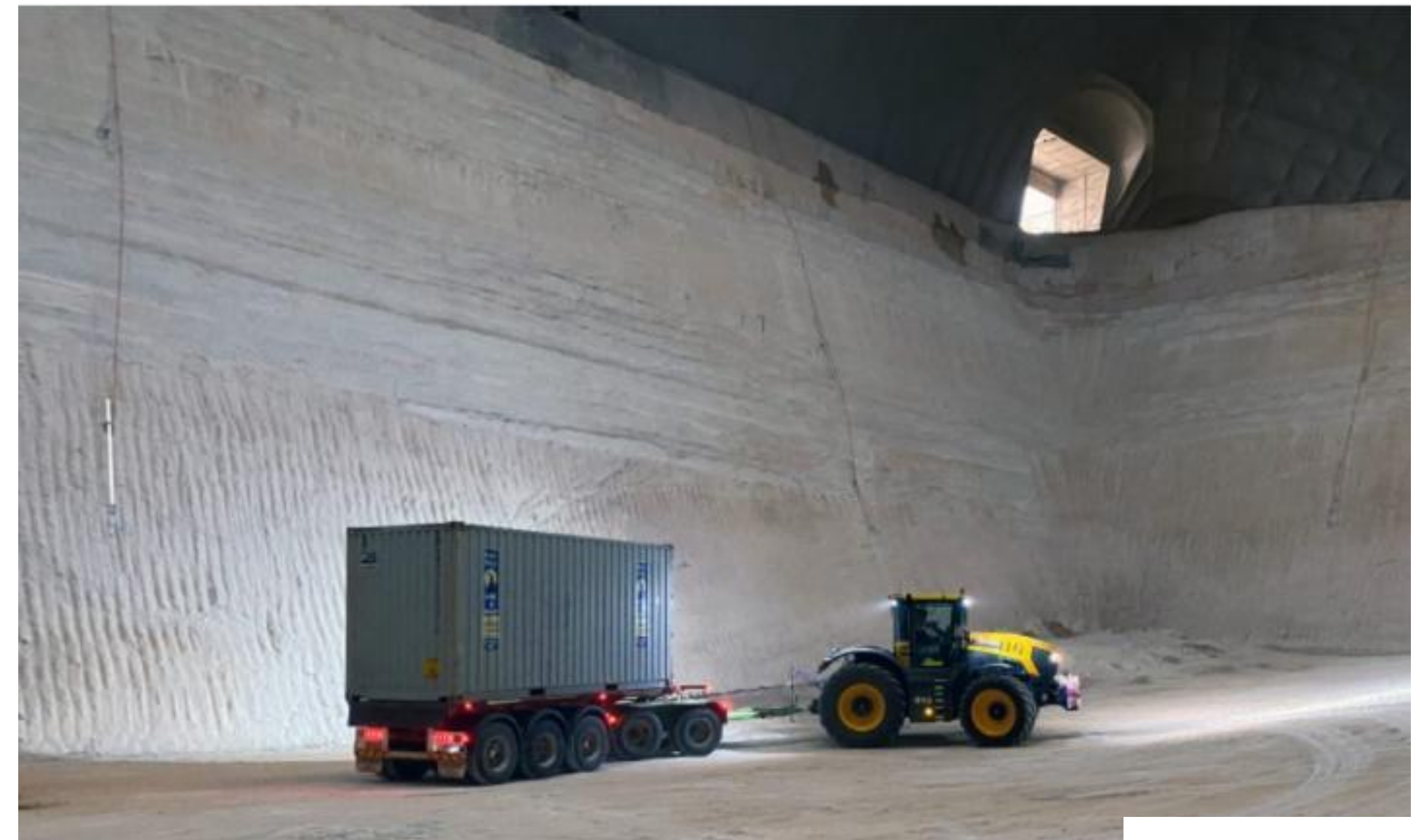
Surface/above the ground long term storage for elemental mercury



Sub-surface long term storage for stabilized mercury and cinnabar

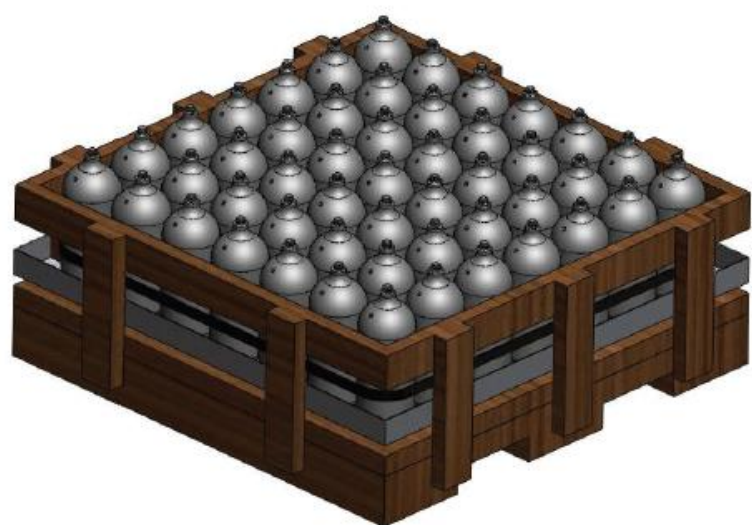


Cinnabar (Mercury Sulphide)



Tier 2 storage – Multiple ESM interim storage facilities.

- 3-5 compact interim storage facilities located on major islands with ASGM activity.
- Meet high safety and security standards storing up to 10 tonnes of elemental mercury.
- These facilities have staff trained in safely decanting and repacking and storing mercury removed from the field, confiscated illegal shipments etc. moved from multiple Tier 3 storage by contractors.
- Tier 2 facilities act as island ‘staging points’ to safely consolidate and pack bulk mercury for freight to the Indonesian Tier 1 facility (Scenario 1) or export for disposal (Scenario 2).



Tier 2 Interim storage: Purpose built with trained staff for storing, decanting, overpacking and shipping of elemental mercury.

Tier 3 storage: Small to medium- scale dangerous goods storage

- Depending on demand in different provinces, numerous Tier 3 storage units of various sizes may be deployed for police, medical facilities and other authorities who directly remove and handle mercury.
- The objective is to provide short term storage that minimises exposure risk to personnel until mercury is collected by contractors.
- Leaking medical equipment, plastic water bottles of mercury from ASGM sites and other poorly contained mercury can be kept in Tier 3 storage for brief periods.
- Consolidation and repacking can be undertaken by trained professionals at Tier 2 interim storage facilities.

Tier 3
storage:
Dangerous
goods
containers



Two implementation scenarios.

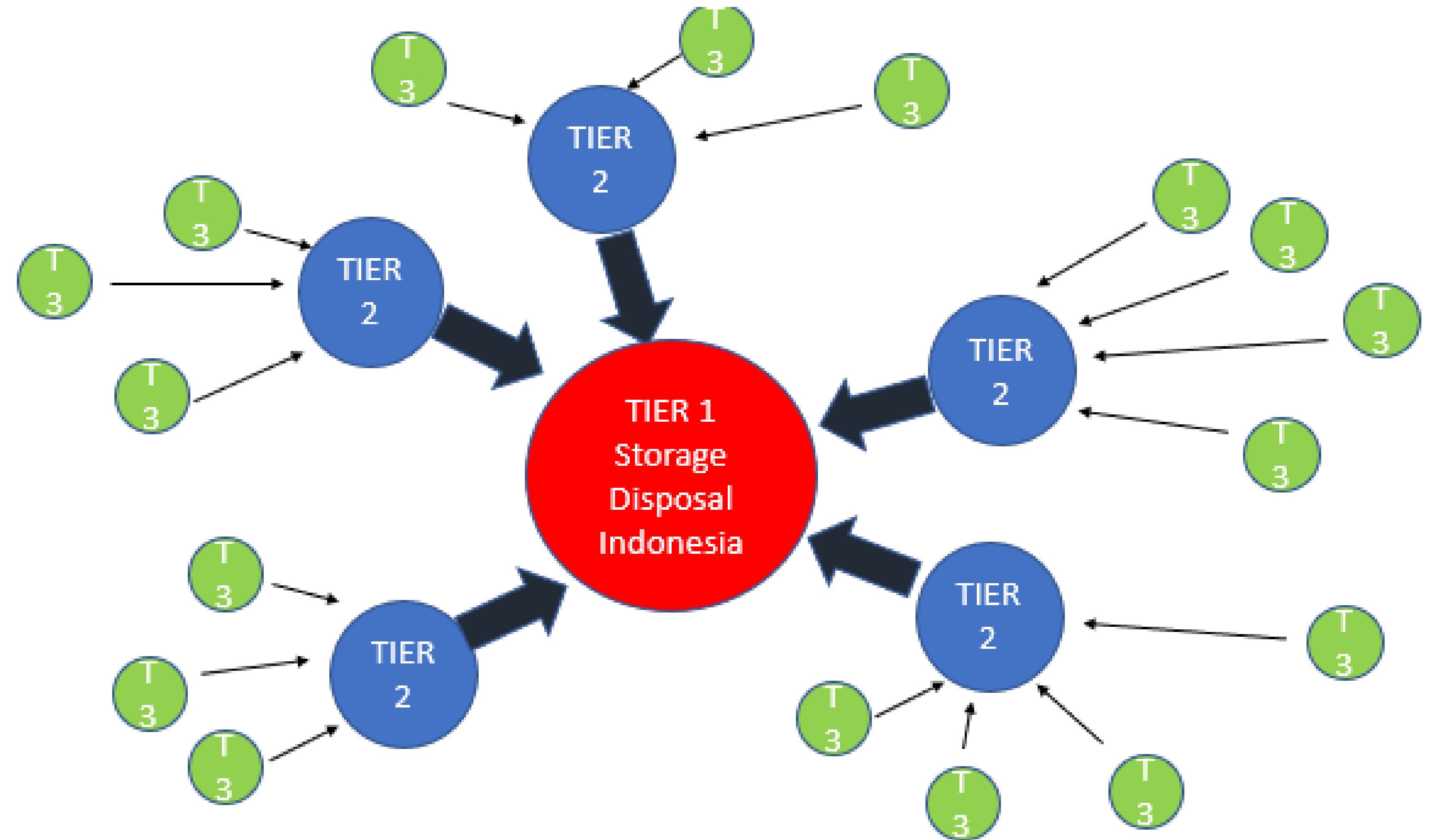
Scenario 1: A single national mercury storage and stabilisation facility capable of managing elemental the foreseeable future is established.

The Tier 1 facility accepts mercury from Tier 2 (interim) storage facilities from across Indonesia.

The Tier 2 interim storage sites accept and repackage elemental mercury confiscated from illicit shipments, ASGM sites etc.

Police and other authorities who remove mercury from the field are supplied with small, temporary, secured dangerous goods storage (Tier 3 storage) to avoid exposure from storing mercury in offices, vehicles and other inappropriate location until collected by certified contractors .

Scenario 1
schematic –
Domestic
mercury
storage and
disposal



Scenario 1 – Geographic distribution following LAPs project sites



● Tier 1 long-term mercury storage facility ● Tier 2 interim storage facilities ● Mercury recovery and stabilisation plant

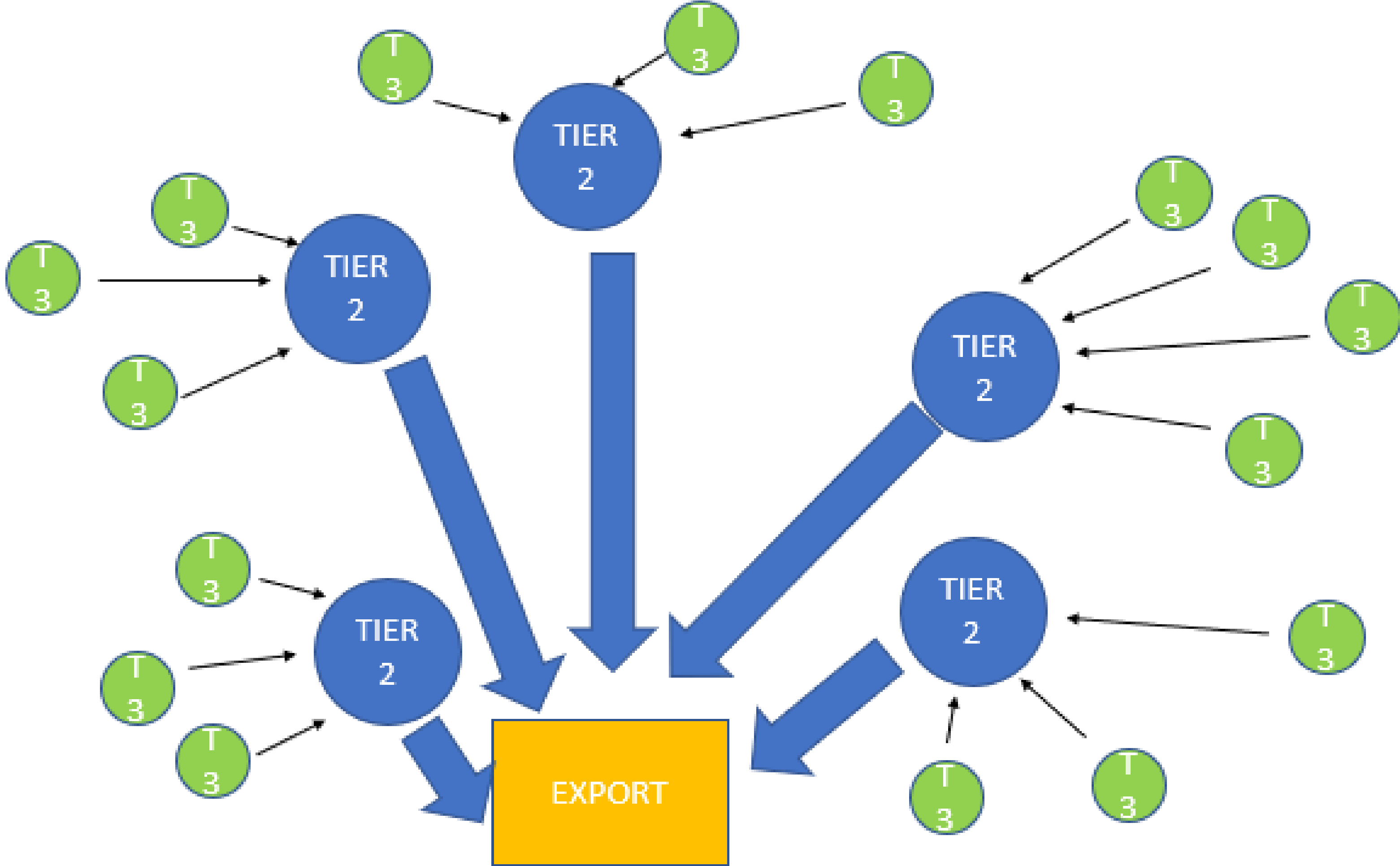
Scenario 2 – interim storage only and export

Only Tier 2 and Tier 3 storage are implemented with repacked mercury exported direct from Tier 2 facilities for final disposal overseas.

Scenario 2 could be implemented rapidly and later move to Scenario 1 once a national Tier 1 facility is developed over time.

This may allow a rapid distribution of small dangerous goods storage (Tier 3) and construction several more robust interim storage facilities over 2 years while plans for a domestic final storage and disposal (Tier 1) are implemented.

Scenario 2
schematic –
Interim
storage and
final export



Thank you for
your
attention!





David Evers

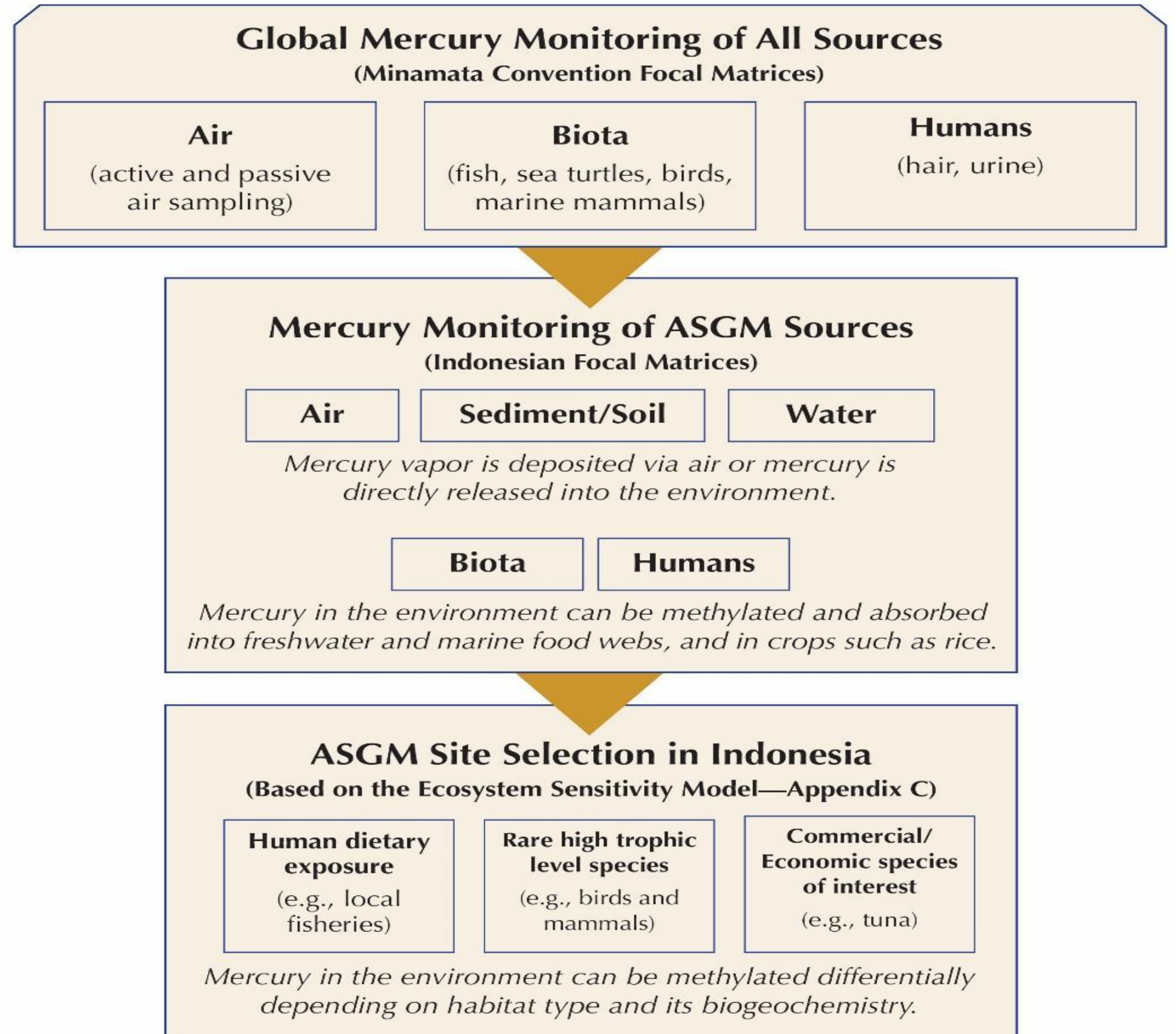
Executive Director, Chief Scientist
Biodiversity Research Institute
USA

Global Monitoring and ASGM impacts: Indonesia as a Case Study

David Evers, PhD and Tim Tear, PhD
Biodiversity Research Institute



Minamata
Convention and
monitoring priorities
(ongoing discussions
during COP4.2)



Non-invasive Human Biomarkers can provide important information

Monitoring Human Exposure to Mercury at ASGM Sites (In Indonesia)

Occupational

Humans are exposed to elemental mercury through ASGM processes (skin and lungs)

Dietary

Humans consume food contaminated with methylmercury such as fish or rice

Biomarkers for Hg

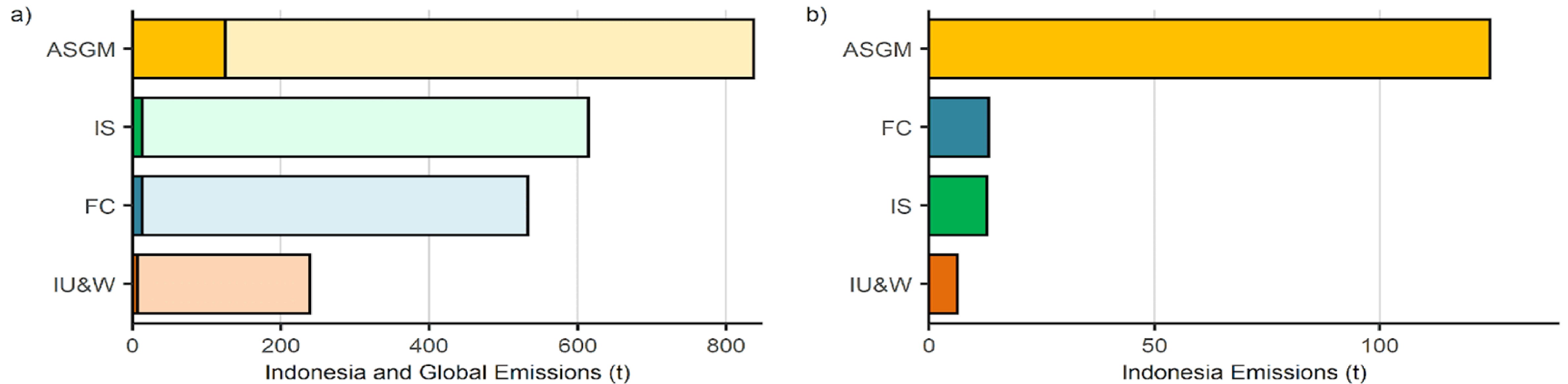


Urine
sampling



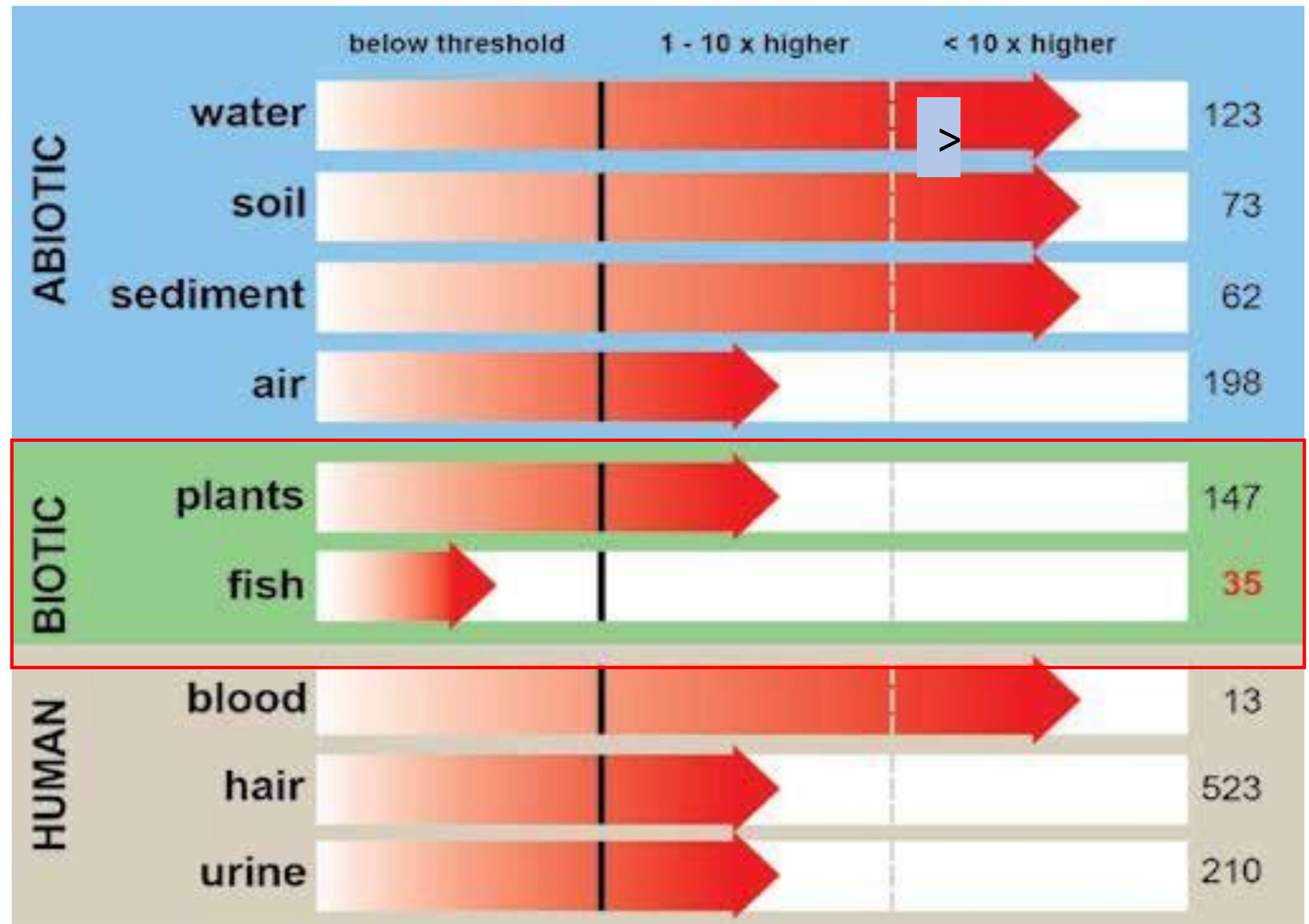
Hair
sampling

ASGM is by far the largest contributor to Indonesia's Hg emissions, enough to have a visible global signature.

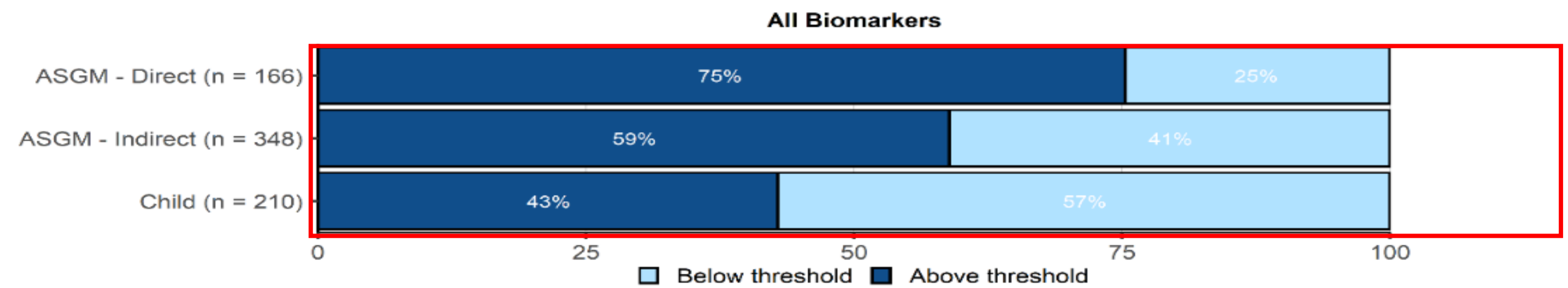
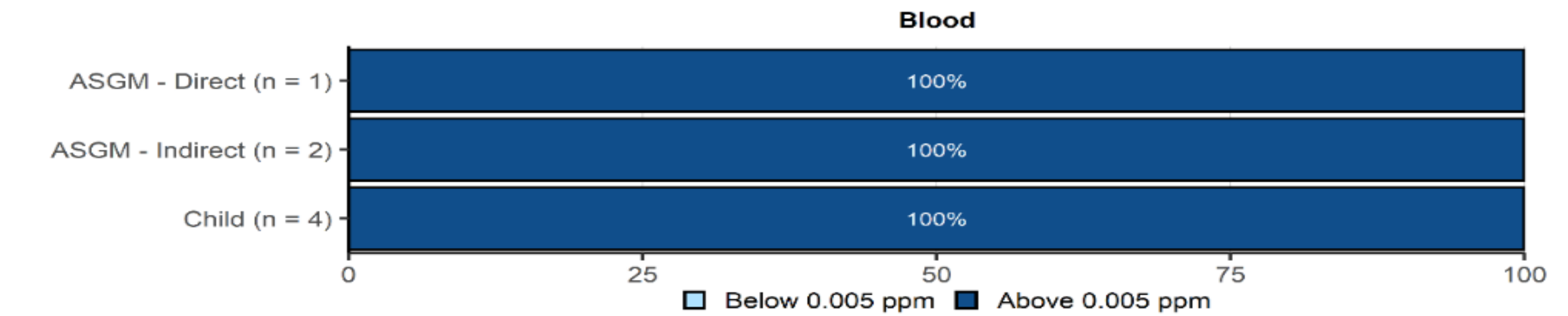
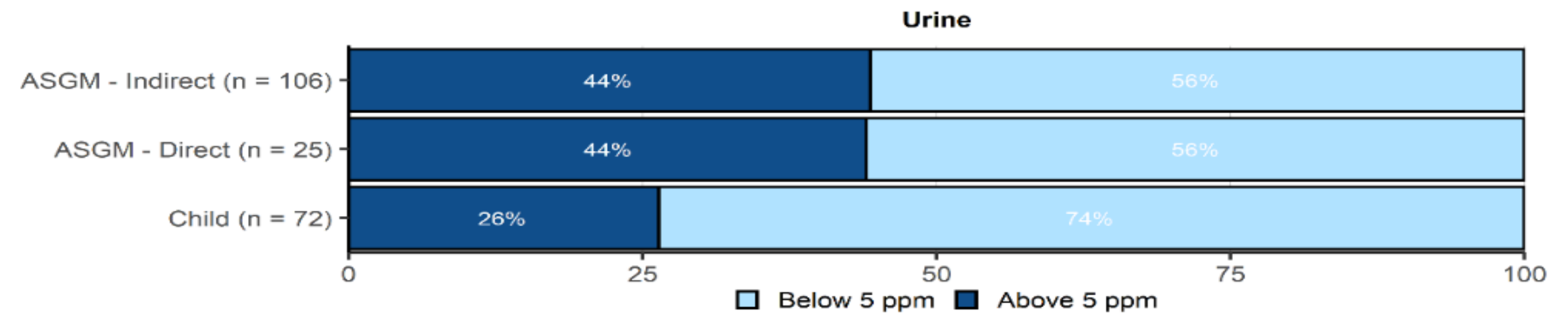
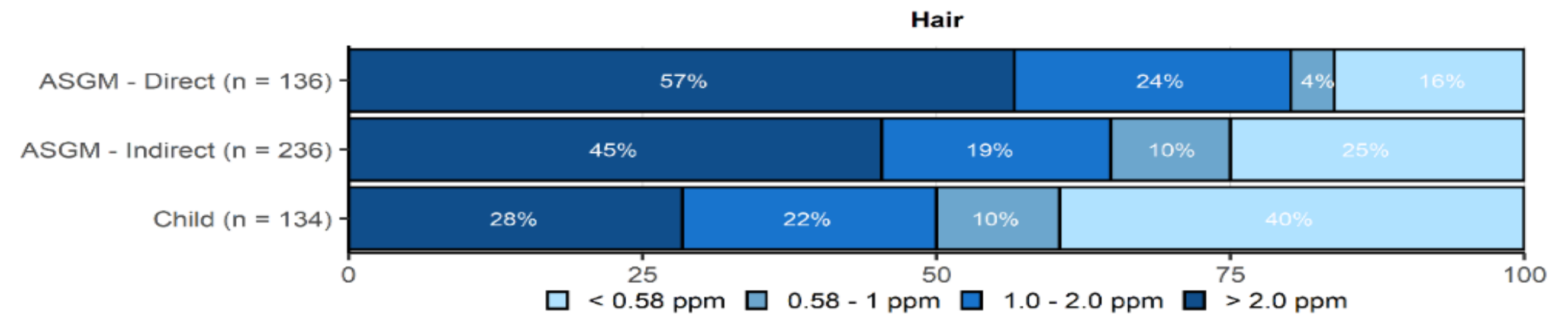


- ASGM: Artisanal and Small-scale Gold Mining
- FC: Fuel Combustion
- IS: Industry Sector
- IU&W: Intentional Use and Waste

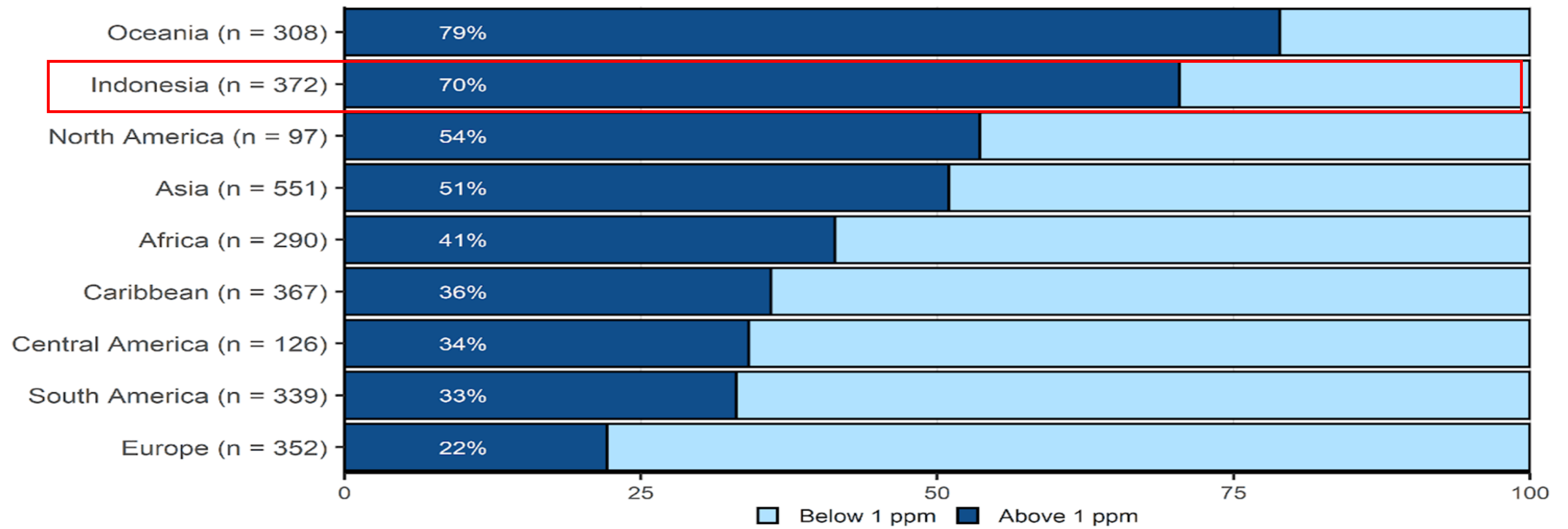
All three major compartments are well above mercury safety thresholds



Large portions of Indonesian society both directly and indirectly related to ASGM activities are contaminated above safe thresholds.

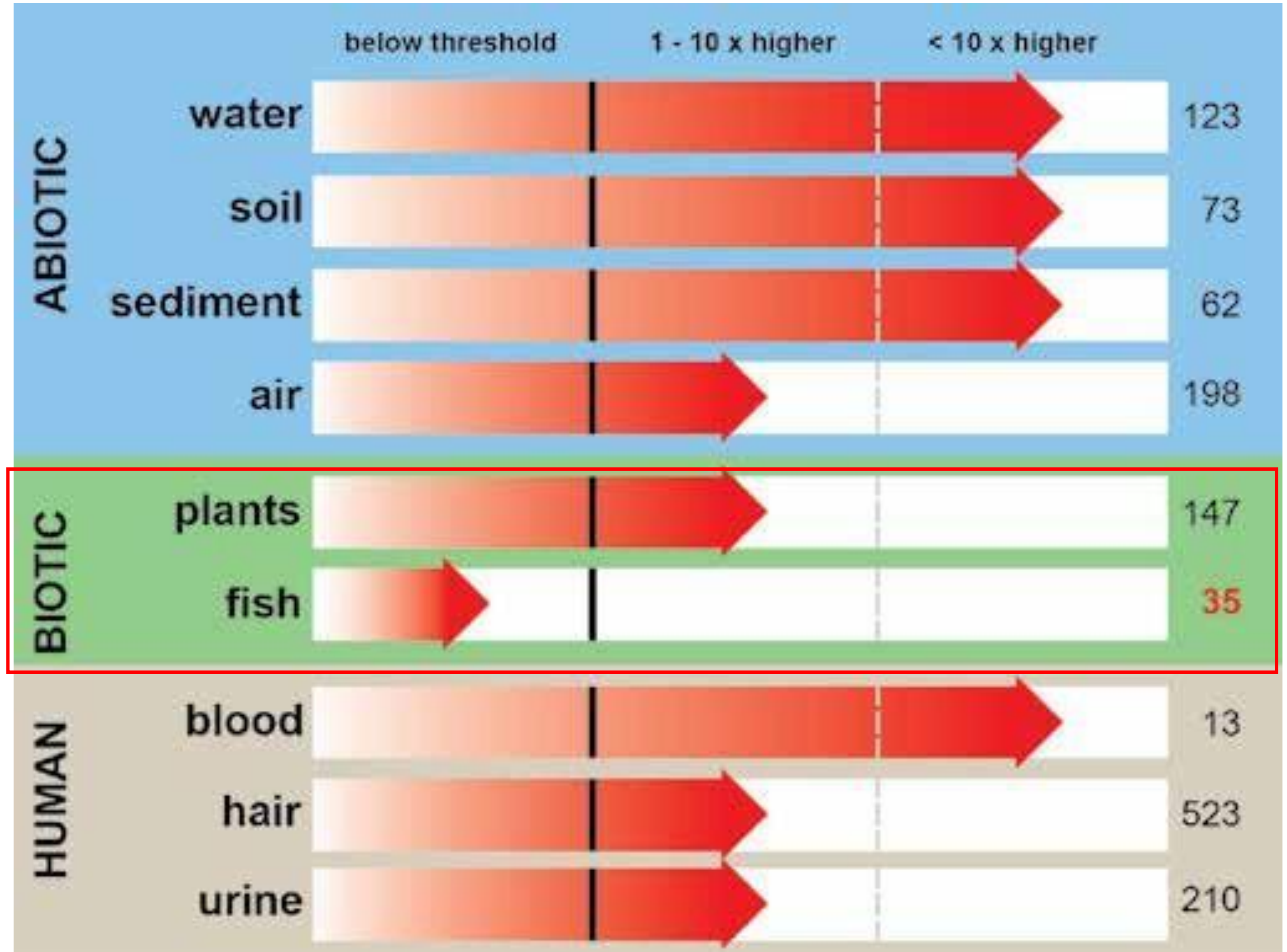


Indonesia has one of the highest relative percentages of mercury* in human hair collected that are above the human health safety threshold of 1 ppm (measured as total Hg).

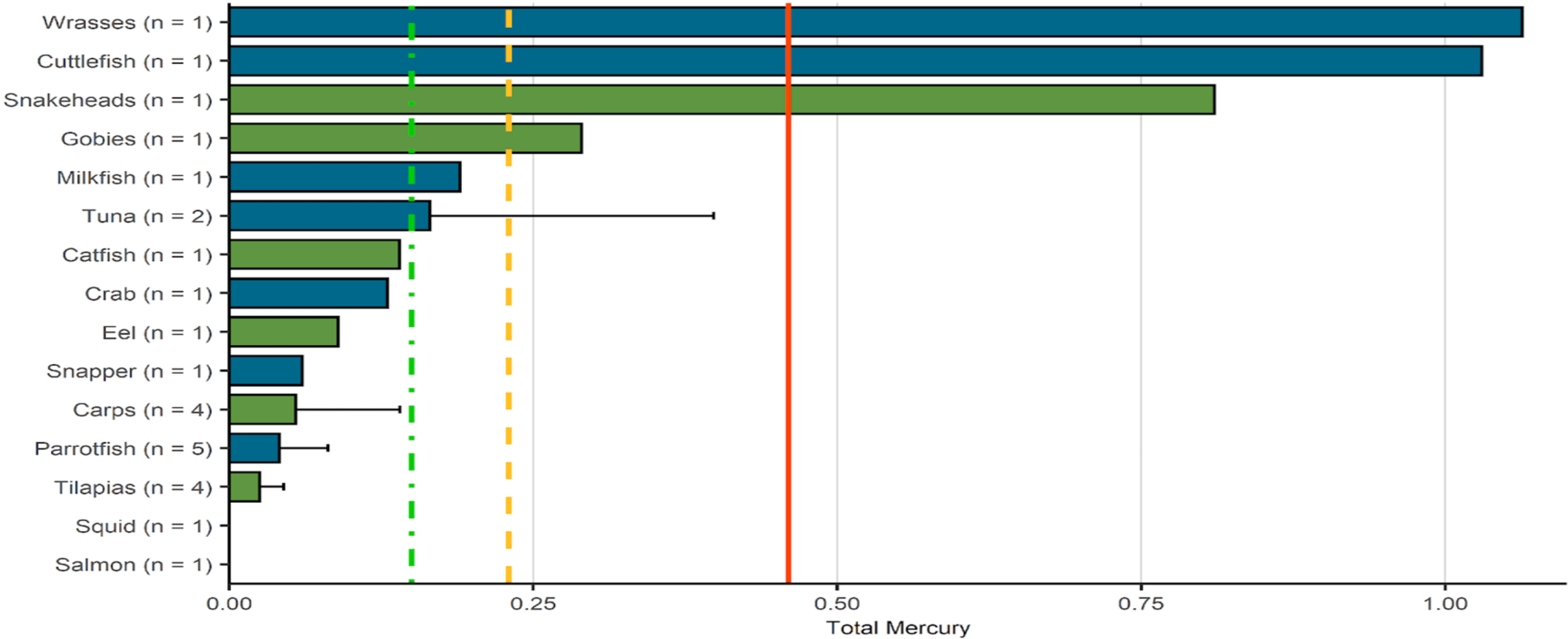


*Samples collected from Indonesian people associated with ASGM activities (this WB study where links to ASGM were documented) are compared with a global dataset (Trasande et al. 2016) presented by continent or region (Oceania = countries within the Pacific Ocean).

All three major compartments are well above mercury safety thresholds



Some fish species are more at risk of contamination than others – the true risk is not yet known for Indonesia



Small sample sizes = Much more monitoring is needed to support public health guidance on fish consumption (Note: green = freshwater, blue=marine)

Next Steps – Hg biomonitoring

U.S. State Department Project:

- More Hg biomonitoring (especially with fish) is necessary because of the high risk to ecohealth and human health;
- Need to build from the existing World Bank and other datasets;
- Need to work closely with the Indonesian government and their new Hg lab to build capacity and structure for potential long-term standard monitoring needs

Resources:

Indonesia ASGM related resources from the U.S. State Department Project

www.briwildlife.org/hgcenter/artisanal-small-scale-gold-mining/asgm-projects-indonesia/

BRI's contribution to the Minamata Convention related to Hg monitoring

<https://briwildlife.org/minamata-cop4/>

Contact:

david.evers@briwildlife.org



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CONVENTION
ON MERCURY**



bri



for a toxics-free future



Center for Regulation Policy and Governance



**GLOBAL
INITIATIVE**
AGAINST TRANSNATIONAL
ORGANIZED CRIME



THANK YOU

Looking forward to our brief discussion

SIDE EVENT, MONDAY, 7 MARCH 2022 – 15.30-16.30 CET

COP-4 (IN-PERSON SEGMENT)