

# UNEP Global Mercury Partnership Waste Management Area Activity Plan (2022-2024)

## I. Introduction

Initiated in 2005 by a decision of the United Nations Environment Programme (UNEP) Governing Council<sup>1</sup>, the Global Mercury Partnership (hereinafter referred to as the “Partnership”) is a voluntary initiative aimed to protect human health and the global environment from the release of mercury and its compounds by minimizing and, where feasible, ultimately eliminating global, anthropogenic mercury releases to air, water and land. The Partnership plays an important role in catalyzing global actions on mercury and offering information, capacity-building and awareness raising in support of implementation of the Minamata Convention. The Partnership is structured around eight priorities for action or so-called “Partnership Areas”, amongst which one dedicated to the environmentally sound management (ESM) of mercury wastes is the Mercury Waste Management Area (WMA).

According to Minamata Initial Assessment (MIA) reports, many developing countries recognize that management of mercury wastes is one of the most prominent challenges to be prioritized for actions. For the effective implementation of the Minamata Convention, ensuring the ESM of mercury wastes, particularly in developing countries is essential where the WMA can contribute at the global, national and local level.

As of August 2021, the WMA consists of more than 100 Partners, including from governments, inter-governmental organizations, civil societies, private sectors, scientific communities and others. The WMA is currently co-led by Dr. Misuzu Asari, Kyoto University and Ministry of the Environment, Japan (MOEJ). Since its establishment in 2008, the WMA has undertaken various activities to promote the ESM of mercury wastes with its previous objective<sup>2</sup> until the end of 2021 and the updated one afterwards:

*To promote the environmentally sound management of mercury wastes by developing and disseminating relevant materials, enhancing capacities and awareness and providing specific solutions at the global, regional, national, and local levels.*

Following priority actions were identified under the current objective:

- a. Identify and disseminate measures to prevent the generation of and promote environmentally sound source separation, storage, collection, transportation, treatment and disposal techniques and practices for different kinds of mercury wastes, taking into account the variety of technological and socio-economic circumstances in different countries.**

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<sup>1</sup> UNEP Governing Council Decision 23/9

<sup>2</sup> *To Minimize and, where feasible, eliminate mercury releases to air, water, and land from mercury wastes by following a lifecycle management approach.*

- b. Build capacities and improve awareness for the environmentally sound management of mercury wastes on the ground in collaboration with other Partnership areas and organizations at the global, regional, national, and local levels.**
- c. Identify specific challenges on mercury wastes management for different sectors and stakeholders and provide corresponding supports and/or solutions to address them.**
- d. Support the implementation of national projects for the environmentally sound management of mercury wastes and share the experiences and lessons learned to promote mutual learning.**
- e. Other activities upon the request of international programmes and organizations, as appropriate.**

Having recognized the objective and priority actions of the WMA, this document sets out prospective activities that the WMA will implement from 2022 to 2024 taking into account the review of activities that the WMA has undertaken until 2020 and the questionnaire survey conducted from January to February 2021. This document may be reviewed, as appropriate, upon the request of the WMA Partners.

## **II. Review of the WMA Activities until 2020**

Since its establishment in 2008, the WMA has undertaken many activities to promote the ESM of mercury wastes. The main deliverable includes, but not limited to “Catalogue of Technologies and Services on Mercury Waste Management” and “Resource Person List”. The WMA has also actively collaborated with other Partnership areas as well as relevant international programmes and organizations. It is important to ensure that future activities of the WMA are informed by experiences and lessons learnt from activities in the past. Therefore, this section provides the review of WMA activities conducted by 2020, taking into account feedback from Partners of the WMA.

### **(i) Catalogue of Technologies and Services on Mercury Waste Management<sup>3</sup>**

The Catalogue of Technologies and Services on Mercury Waste Management (hereinafter referred to as the “Catalogue”) contains series of useful information on mercury wastes treatment technologies, equipment, and services owned by Partners. The Catalogue serves as a quick reference tool for readers to identify relevant technologies, equipment and services providers based on their specific circumstances. The Catalogue contains 13 technologies, equipment and services to date and has been updated on an annual basis (Last updated in March 2021). Following issues should be considered in moving forward.

- The Catalogue could be further improved by integrating non-industries’ initiatives, knowledge and information. Such information is particularly useful for developing countries where the availability

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<sup>3</sup> <https://web.unep.org/globalmercurypartnership/catalogue-technologies-and-services-mercury-waste-management-2020-version>

of environmentally sound techniques is limited.

- The Catalogue could be restructured so that it potentially serves as a list of mercury waste treatment facilities around the globe where readers can use it to identify available facilities based on their specific circumstances.
- Mercury waste treatment facilities and relevant technologies or services should be distinctly described.
- More technologies, equipment and services need to be reflected in the Catalogue to give readers flexibility.
- Brief description of business together with the websites of respective entities should be included.
- The Catalogue should be more widely disseminated to a targeted audience.

(ii) Resource Person List on mercury waste management

The Resource Person List (RPL) is a reference of resource person with their expertise on mercury waste management, including their working language. The RPL contains experiences and expertise on 40 experts to date and has been updated every several years (Last updated in March 2017). Following issues should be considered in moving forward.

- The RPL may not be fully utilized by stakeholders as originally intended.
- The RPL may become more useful if integrated into the Catalogue. However, it is important to note that the RPL is not accompanied by validation processes for inclusion in the list, and thus it is simply a list of self-nominated experts who are not necessarily Partner of the WMA. The RPL may need to be revised or another document may need to be developed to include individual Partners of the WMA.

(iii) Good Practice Document for Management of Mercury Release from Waste (*suspended*)<sup>4</sup>

The WMA developed a Good Practice Document for Management of Mercury Release from Waste (hereinafter referred to as “Good Practice Document”) containing practical information to implement the technical guidelines for the ESM of mercury wastes under the Basel Convention (herein referred to as the “technical guidelines”). The Good Practice Document intends to provide cases that can support the implementation of good practices to reduce mercury releases from wastes, taking into account the life-cycle approach. Following issues should be considered in moving forward.

- The development of the Good Practice Documents has been suspended even though it contains practical cases in which mercury wastes are managed in an environmentally sound manner. This is mainly because there is no validation process to judge which practices are considered as “good”.

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<sup>4</sup> After the INC process started in 2010, the drafting process of this document was suspended. At the WMA meeting in Vienna in 2018, the partners agreed that the WMA does not need to re-open drafting process.

- In planning future activities, due consideration needs to be given to the variety of national circumstances including socio-economic, technical and political aspects.

(iv) Collaboration with other Partnership areas

Given the fact that wastes are generated in many industrial and non-industrial processes, mercury waste management is relevant to most of the Partnership areas under the Partnership. The WMA has actively sought opportunities for collaboration with other Partnership areas. The following is an example of inter-area collaboration that the WMA has worked on.

*Collaboration with Mercury cell chlor-alkali production area*

The WMA conducted a joint mission in Uruguay in March 2018 with the mercury cell chlor-alkali production area to identify the needs and challenges faced by Chlor-alkali producers and the Uruguayan government - both in the financing of the conversion process, and in addressing the management and disposal of mercury wastes. In March 2019, the same joint mission visited the multilateral funding communities in Washington D.C. to assess potential combinations of financial schemes to assist the Chlor-alkali producing companies for mercury phase-out and mercury waste management.

Following issues should be considered in moving forward.

- Mindful of the fact that the Partnership areas share the overall goal of the Partnership, collaboration with other Partnership areas should be highly envisaged since the lifecycle approach, including waste management, is a key element to protect human health and the environment from adverse effects of mercury. Prospective Partnership areas for future cooperation may include Artisanal and small-scale gold mining (ASGM) area, mercury cell chlor-alkali production area, mercury in products area and mercury supply and storage area.

(v) Cooperation with international programmes and organizations

The WMA has closely cooperated with relevant international programmes and organizations to promote the ESM of mercury wastes. These include:

- Inputs to “*Practical sourcebook on mercury waste storage and disposal*” developed by UNEP and International Solid Waste Association (ISWA)
- Inputs to “*Global Mercury Waste Assessment*” developed by UNEP-International Environmental Technology Centre

Following issues should be considered in moving forward.

- Collaboration with international programmes and organizations should be highly encouraged.

- The WMA should encourage and support Partners from international programmes and organization to undertake their own initiatives.

(vi) The annual WMA meeting

The WMA has regularly held face-to-face and online annual WMA meetings to facilitate information exchange and discuss relevant WMA activities:

- 1<sup>st</sup> meeting in Tokyo (Japan) in March 2009
- 2<sup>nd</sup> meeting in Tokyo (Japan) in March 2010
- 3<sup>rd</sup> meeting in Manila (Philippines) in December 2013
- 4<sup>th</sup> meeting in Vienna (Austria) in September 2018 (*back-to-back with International Expert Group Meeting on Mercury Waste Management*)
- 5<sup>th</sup> meeting in Bilbao (Spain) in October 2019 (*back-to-back with ISWA World Congress 2019*)
- Online meetings in November 2020, March 2021 and July 2021

Following issues should be considered in moving forward.

- The annual WMA meeting has been effective for the information exchange and discussion.
- Online meetings have an advantage over face-to-face meetings in terms of participation, although the time lag and internet connection are of concern for certain stakeholders.

### **III. Result of the Questionnaire Survey**

Although challenges or needs related to mercury waste management have been widely acknowledged at both national and regional levels, the specific needs of stakeholders for ESM of mercury wastes should be clearly understood including types of mercury wastes to be addressed and management practices to be improved. Therefore, the Leads of the WMA conducted an online questionnaire survey from January to February 2021 to identify:

- stakeholders, regions and countries whose have challenges on the management of mercury waste;
- specific types or management processes of mercury wastes which require enhanced actions for the ESM; and
- information and services that the WMA can potentially provide.

The questionnaire was circulated among the WMA Partners and other Partnership areas through the Secretariat of the Partnership. As a result, 41 respondents from governments, IGOs, NGOs, industries, and academia were received. The result of the survey identified challenges and needs in which assistance is required and supports that the WMA could potentially offer for the ESM of mercury wastes. Among others, key findings from the questionnaire survey are shown below.

- Among three types of mercury wastes specified under Article 11 of the Minamata Convention, management of wastes containing mercury (=mercury-added products) is recognized as the utmost challenge. In particular, waste of fluorescent lights and measuring devices containing mercury are of great concern.
- Management of wastes consisting of mercury generated from non-ferrous metal smelting and oil and gas industry, in addition to chlor-alkali production industry, requires distinct approaches compared with other types of mercury wastes.
- Among wastes contaminated with mercury, management of tailings generated in the ASGM sector should be more focused.
- Challenges exist at every phase of mercury waste management, especially at collection. Coherent measures over different management phases are important.
- Generally, types of support requested to the WMA include capacity-building, technical assistance, regulatory arrangement support, development of guidance and tools, financial resources and project development.

*Note: Further detail of the result is attached to Annex I.*

The questionnaire also asked types of support needed from the WMA. Notwithstanding non-exhaustive in nature, Annex II summarizes such requests, together with corresponding resources available and opportunities (the “Response list”) to help to explore the WMA’s future activities.

#### IV. Prospective Activities

Prospective activities will direct the WMA’s work from 2022 to 2024. A review of the previous activities, the result of the questionnaire survey and the response list, as well as inputs from Partners, identified that the prospective activities of the WMA can be categorized into resource development, capacity-building and awareness-raising and solution exchange. Following points should be considered in considering the WMA activities for 2022-2024.

- Distinct approaches are required for activities in the short-term and those which need the long-term perspective.
- The WMA has rich knowledge and experience in implementing capacity-building activities. In order to further enrich specific themes, collaboration with other Areas is strongly encouraged and actively to be sought, especially in organizing webinars for short-term activities.
- Many existing resources and opportunities could potentially address challenges in mercury waste management (e.g., Technical guidelines for the ESM of mercury wastes under the Basel Convention, the Catalogue, Minamata Initial Assessment). It appears that, however, the availability of training materials together with practical information on the grounds that assist in addressing challenges is limited.
- Responding to requests for financing or implementation of the project would require long-term perspectives. Approaches to identify specific needs in a particular context and to provide corresponding solutions should be elaborated.
- A strategic approach to disseminate information and knowledge and/or deliver available resources to targeted groups is to be well considered.

Based on the above, the WMA will implement activities from 2022-2024 which may include followings. It should be noted that the activity may need to be reviewed, as appropriate.

Area	Activity
Resource development	<ul style="list-style-type: none"> <li>• Updating or merging existing tools and developing new tools               <ul style="list-style-type: none"> <li>✓ Mapping of facilities where mercury wastes could be treated in an environmentally sound manner, potentially through the annual update of the Catalogue</li> <li>✓ Development of a blueprint for digitalization of the Catalogue (e.g., databasing and information transmission on the website) in the long run</li> <li>✓ Developing factsheet on the management of certain types of mercury wastes in cooperation with ISWA</li> <li>✓ Review of Resource Person List including the necessity and revision, as</li> </ul> </li> </ul>

Area	Activity
	<p style="text-align: center;">appropriate</p> <ul style="list-style-type: none"> <li>• Developing training materials intended for specific audiences (policymakers, practitioners, local communities) with relevant languages for repeated use. (e.g., video clipping)</li> </ul>
Capacity-building and awareness-raising	<ul style="list-style-type: none"> <li>• Webinar in collaboration with other Partnership areas, for example on <ul style="list-style-type: none"> <li>✓ Process conversion in chlor-alkali facilities, and the ESM of mercury wastes in collaboration with the Mercury cell chlor-alkali production area</li> <li>✓ ESM of mercury wastes generated at non-ferrous metal smelting and oil and gas industries in collaboration with the Mercury supply and storage area</li> <li>✓ ESM of mining wastes (particularly tailings) generated from the ASGM sector in collaboration with the ASGM area</li> </ul> </li> <li>• Compilation and sharing of case studies with the lessons learned, successful factors and challenges related to mercury waste management, taking into account different socio-economic, technical and political circumstances</li> <li>• Workshop for scientists and practitioners including specific sectors and stakeholders for the ESM of mercury wastes (potentially face-to-face)</li> </ul>
Solution exchange	<ul style="list-style-type: none"> <li>• Platform for matchmaking among relevant stakeholders</li> </ul>

## V. Implementation Arrangement

The WMA establishes Working Groups (WGs) in accordance with three categories of activity above for the effective and efficient implementation.

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| <ul style="list-style-type: none"> <li>• WG1 : Resource development</li> <li>• WG2 : Capacity-building and awareness-raising</li> <li>• WG3 : Solution exchange</li> </ul> |
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The modality of the WGs are as follows:

- Partners of the WMA will nominate at least two leaders taking into account sector, gender and geographic balance, to facilitate the work within the group and coordinate with other WGs for information sharing and potential collaboration.



- Partners who wish to join the WG need to communicate with the leads of the WMA<sup>5</sup>. Partners are eligible for participating in multiple WGs, but leaders cannot be concurrently appointed across different WGs. Leaders may be changed upon the request of themselves.
- Leads and leaders of each WG should develop the workplan of respective WGs for the next three years (2021 – 2023). In developing the workplan, leads and leaders of WGs should attempt to ensure consistency with the WMA Activity Plan and avoid duplication with works of other WGs, taking into account comments provided by members of each WG and Partners of the WMA. The workplan should be endorsed by Partners for the finalization but could be modified afterwards upon the agreement by Partners.
- Any activities by WGs are voluntary in nature, therefore should be implemented within the capability of each WG and individuals. The WMA leads will provide in-kind contribution to the fullest extent for any activities undertaken by WGs.
- With the support of the WMA leads, meetings will be regularly organized among core members of WGs to share information of activities and discuss possible collaboration. Summary of core member meetings will be shared with Partners via email and/or at the WMA meetings.
- Each WG reviews its activities, and report outputs, challenges, and lessons learned by the end of March 2023.

Relevant activities can potentially be organized in tandem with relevant global/regional events such as the Minamata Convention COP, ICMGP and ISWA Congress. This arrangement would allow better participation while reducing the costs for face-to-face events. Recognizing WMA activities are supported by voluntary contributions, the WMA may need to consider the financial arrangement, depending on works to be undertaken.

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<sup>5</sup> wastemanagement@exri.co.jp

## Annex I: Result of the questionnaire survey

### Overview of the questionnaire survey

- The questionnaire survey to identify the needs for technologies and services on mercury waste management was conducted.

- The objective of the questionnaire is to identify:

- stakeholders, regions and countries whose have challenges on the management of mercury waste;
- specific types or treatment processes of mercury waste which require enhanced actions for the ESM;
- needs on information and services that the WMA can provide.

- The information will be used to explore WMA's future activities.

Date	Proposed actions
Early Nov	The lead developed very early draft
Nov 27	1 <sup>st</sup> WMA meeting (discuss formats etc.)
Dec	The lead will revise and finalize
Jan-Feb	Information collection through online questionnaire
Mar 8	2 <sup>nd</sup> WMA meeting (result will be shared)

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### Overview of the questionnaire survey

- Structure of the survey

#### I. General information

- Name
- E-mail address
- Organization
- Type of organization
- Participation in UNEP Global Mercury Partnership

#### II. Challenges related to mercury waste management

- Situation
- Country/region
- Category of mercury waste

#### Wastes consisting of mercury or mercury compounds

- Source of waste
- Amount
- Operation and processes
- Challenges for the ESM

#### Wastes containing mercury or mercury compounds and Wastes contaminated with mercury or mercury compounds

- Type of waste
- Amount
- Operation and processes
- Challenges for the ESM

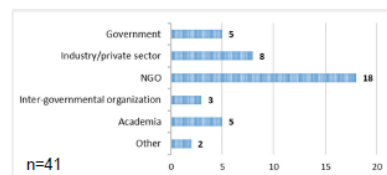
- Type of support that the WMA could provide

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### Result and analysis of the questionnaire survey

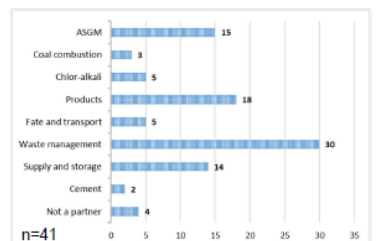
#### I. General Information

- 41 respondents provided information on 60 cases in total.
- Respondents are from government, industry, NGOs, IGOs, academia and others.



- Respondents are not only WMA partners but partners of other partnership areas and a few non-partners.

\*There are some duplication.

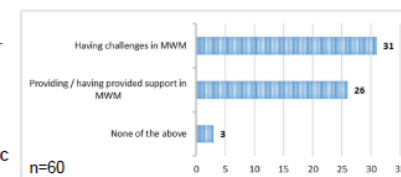


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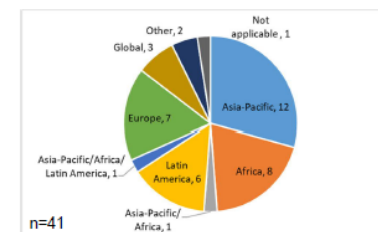
### Result and analysis of the questionnaire survey

#### II. Challenges related to mercury waste management (MWM)

- Many of responds are about challenges of MWM that the respondents are facing.
- There are also submissions from respondents who are providing/ have provided supports in MWM.
- "None of the above" are mainly for information sharing on MWM that specific country/region is facing.



- Responses from a wide range of regions.
- This result may just represent respondents' address and/or place of activities.



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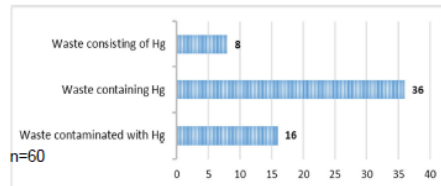
## Annex I: Result of the questionnaire survey

### Result and analysis of the questionnaire survey

#### II . Challenges related to mercury waste management (MWM)

Category of mercury waste to be address (single choice but can choose three times)

- Many entities have problems on waste containing mercury .



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### Result and analysis of the questionnaire survey

#### II -1. Waste consisting of mercury or mercury compounds (n=8)

Challenges for the environmentally sound management (multiple)

- There are several challenges for the ESM of the waste consisting of mercury, but "Lack of Infrastructure/facility" is the most common challenge.
- "Other" includes financial resources.



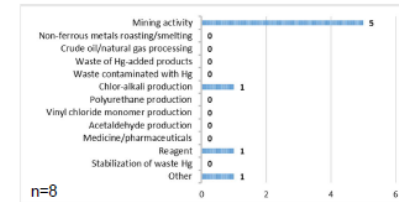
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### Result and analysis of the questionnaire survey

#### II -1. Waste consisting of mercury or mercury compounds (n=8)

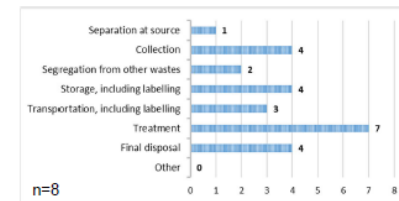
Source (single choice)

- "Mining activity" is the most chosen source of waste consisting of mercury.



Operation and processes to be improved/developed (multiple)

- Proper treatment is the prominent process to be improved. Collection, proper storage including labelling, and final disposal are also significant.



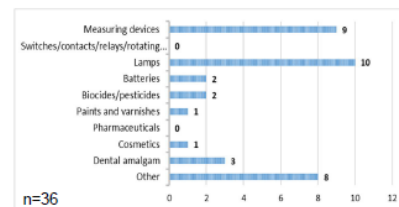
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### Result and analysis of the questionnaire survey

#### II -2. Waste containing mercury or mercury compounds (n=36)

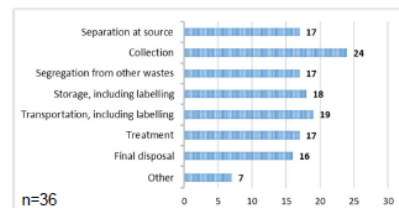
Types of waste (single choice)

- Lamps and measuring devices are of great concern.
- "Other" includes municipal waste and "most of the above", etc.



Operation and processes to be improved/developed (multiple)

- Several challenges are identified for waste containing mercury.
- "Collection" is the most common operation and processes to be improved/developed.



## Annex I: Result of the questionnaire survey

### Result and analysis of the questionnaire survey

#### II -2. Waste containing mercury or mercury compounds (n=36)

##### Challenges for the environmentally sound management (multiple choices)

- There are several challenges for the ESM of the waste containing mercury, but “Lack of Infrastructure/facility” is the most common challenge.
- “Institutional capacity to enforce laws and regulations” and “Public awareness and trainings” are also identified as challenges.
- “Other” includes financial resources.



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### Result and analysis of the questionnaire survey

#### II -3. Waste contaminated with mercury or mercury compounds (n=16)

##### Challenges for the environmentally sound management (multiple choices)

- There are several challenges for the ESM of waste contaminated with mercury, but “Lack of Infrastructure/facility,” “Institutional capacity to enforce laws and regulations,” and “Public awareness and trainings” are the most common challenges.
- “Other” includes lack of reliable data and training handbooks.



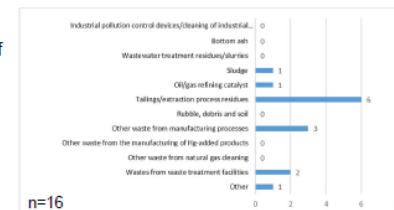
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### Result and analysis of the questionnaire survey

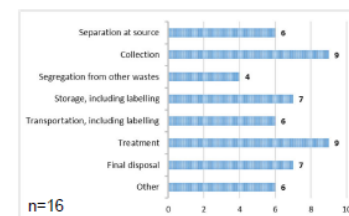
#### II -3. Waste contaminated with mercury or mercury compounds (n=16)

##### Types of waste (single choice)

- “Tailings/extraction process residues” is of most concern.
- “Other” is “mercury from large scale gold mine crushing plants.”



- Operation and processes to be improved/developed (multiple)
- Several challenges are identified for waste contaminated by mercury.
- “Collection” and “Treatment” are the most common operation and processes to be improved/developed.
- “Other” includes “monitoring” and “The need for a very large permanent sealed storage facility.”



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### Result and analysis of the questionnaire survey

#### III. Types of support

##### Capacity building

- Capacity building through trainings on resource mobilization for effective Mercury Waste Management
  - Human resource development to operate the facility
  - Formalization of miners and regulating industries for the coordination among stakeholders
- Training on Material Flow Analysis including its tool (e.g. software/application)
- Knowledge sharing
  - Knowledge transfer: Govt depts, dental operatives
  - Sharing success story and best practices on the management of ASGM tailings in the context of informal ASGM
  - Technical expertise on research and education

##### Technical support

- Technology transfer for final disposal and elimination of waste containing mercury
- Support for safe storage, dismantling, and centralized treatment centers
- Capacity to store and safely dispose of (or ship for disposal) mercury-added products that have replaced with alternatives

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## Annex I: Result of the questionnaire survey

### Result and analysis of the questionnaire survey

#### III. Types of support

##### □ Legal structure

- Development and implementation of national legislation for mercury wastes in line with the Minamata Convention
- Expertise to develop regulations, laws and policy in response to import, storage, use and general management of mercury particularly in the ASGM industry
- Development of policies and technical guidelines for environmentally sound collection, transport and storage of wastes containing mercury
- Assistance to enforce law on tailings management for informal ASGM

##### □ Tools/ guidance

- Guidance on the best-suited ways for treatment of waste in SIDs
- Guidance for disposal of mercury wastes generated from ASGM
- Guidance on treatment, financing options, disposal options, Basel-related guidance for shipment of mercury to suitable disposal facilities
- List of regionally and globally-accessible disposal facilities
- General literature for public on the benefits of separating mercury-added products before disposal
- Assessment of national situation (including improvement of inventory) to quantify the different categories of mercury wastes

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### Result and analysis of the questionnaire survey

#### Types of support

##### □ Funding

- Funding for project/technologies
  - Funding to assist in the programs directed to mercury waste management, supply and storage
  - Funding to assess new technologies for treatment of mercury contaminated sites and stabilization
- Funding for final disposal including the transportation
  - Export fees to final disposal of waste containing mercury in developed countries
  - Transportation fees (exportation of waste containing mercury for final disposal and elimination in developed countries)
  - GEF funding for infrastructure development for toxic waste including waste containing mercury for the final disposal

##### □ Cooperation with other Partnership areas

- Supply and storage
  - Two areas should establish regional and/or national storage/disposal sites for countries not capable of solidifying elemental mercury
- ASGM
  - Teaching ASGM in using mercury-free gold extraction
  - Guidance for disposal of mercury waste generated from ASGM
  - Technical assistance to enforce law on ASGM tailings management in the context of informal ASGM

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## Annex II: Response list

Type of support to be needed		Available resource and opportunity	Note by the WMA leads
Capacity-building	Training to operate the mercury waste treatment facility	“Technical guidelines for the environmentally sound management of mercury wastes consisting of, containing or contaminated with mercury (Technical guidelines)” <sup>6</sup>	Although specific operational requirements may be subject to national legislations, the WMA leads generally recognize the importance of capacity-building on the grounds.
	Training to formalize miners and regulate the industry	<ul style="list-style-type: none"> <li>• “Guidance Document: Developing a National Strategic Plan to Reduce Mercury Use in Artisanal and Small-Scale Gold Mining”</li> <li>• Resources of planetGOLD<sup>7</sup></li> </ul>	This issue may not be directly linked with mercury waste management, but the WMA may be able to consult with the ASGM area for the possible area of collaboration, as appropriate.
	Training on material flow analysis	<ul style="list-style-type: none"> <li>• UNEP Toolkit</li> </ul>	<ul style="list-style-type: none"> <li>• UNEP and UNITAR collaborate on developing an online training platform “MercuryLearn” which promotes dissemination and enhances the usability of the UNEP Toolkit as a standard methodology to prepare national mercury emissions and releases inventories<sup>8</sup>. Building on existing initiatives, the WMA may consider how to contribute from the perspective of mercury wastes (e.g., support for identifying detailed flow on mercury wastes).</li> <li>• Ministry of the Environment, Japan together with UNEP and UNITAR have initiated training to support developing countries in developing a material flow.</li> </ul>
	Knowledge sharing for dental clinics	<ul style="list-style-type: none"> <li>• “Lessons from countries phasing down dental amalgam use”<sup>9</sup></li> <li>• “Future use of materials for dental</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge, resources and lessons on phasing-down dental amalgam are available at existing resources. The WMA may consider how to promote the ESM of waste of dental</li> </ul>

<sup>6</sup> <http://www.basel.int/Implementation/TechnicalMatters/DevelopmentofTechnicalGuidelines/TechnicalGuidelines/tabid/8025/Default.aspx>

<sup>7</sup> <https://www.planetgold.org/formalization>

<sup>8</sup> <https://mercurylearn.unitar.org/>

<sup>9</sup> <https://www.praktikertjanst.se/globalassets/00.-praktikertjanst-koncernwebb/04.-dokument/life/10.-dental.amalgam.10mar2016.pages.web.pdf>

## Annex II: Response list

Type of support to be needed		Available resource and opportunity	Note by the WMA leads
		restoration” <sup>10</sup>	<p>amalgam.</p> <ul style="list-style-type: none"> <li>The WMA leads note that the practical information on how to manage wastes of mercury-added products, including dental amalgam will be useful.</li> </ul>
	Knowledge sharing on best practices on the management of ASGM tailings	“Guidance on developing a national action plan to reduce and, where feasible, eliminate mercury use in artisanal and small-scale gold mining” <sup>11</sup>	The COP3 to the Minamata Convention requested the Secretariat, in cooperation with the ASGM partnership area to improve this guidance regarding the management of tailings from ASGM. The revised version of the guidance will be presented for consideration and possible adoption by the COP4. Supplemental activities could be further considered by the WMA in cooperation with the ASGM partnership, as appropriate, after the adoption of the guidance.
	Knowledge sharing on technical expertise for research and education	International Conference on Mercury as a Global Pollutant (ICMGP)	
Technical support	<p>Technology transfer for final disposal and phasing-out of wastes containing mercury</p> <p>Safe storage, dismantling and centralized treatment facility</p> <p>Capacity to store and safely dispose of (or shipping for disposal) mercury-added products</p>	<ul style="list-style-type: none"> <li>GEF, SIPs Special Programme and other bilateral/multilateral partnership</li> <li>“Catalogue of Technologies and Services on Mercury Waste Management – 2021 version”<sup>12</sup></li> <li>Technical guidelines</li> </ul>	<ul style="list-style-type: none"> <li>The WMA leads note that the WMA may not be the best-suited platform to provide financial/technical supports, but mapping of past and ongoing projects related to mercury wastes management and summarizing lessons learned may be useful.</li> <li>There are many existing technical resources useful to potentially address challenges, including the Catalogue. The WMA may consider how to disseminate and existing</li> </ul>

<sup>10</sup> [https://www.who.int/oral\\_health/publications/dental\\_material\\_2011.pdf](https://www.who.int/oral_health/publications/dental_material_2011.pdf)

<sup>11</sup> [http://www.mercuryconvention.org/Portals/11/documents/forms-guidance/English/ASGM\\_guidance\\_e\\_2017.pdf](http://www.mercuryconvention.org/Portals/11/documents/forms-guidance/English/ASGM_guidance_e_2017.pdf)

<sup>12</sup> [https://wedocs.unep.org/bitstream/handle/20.500.11822/27819/WMA\\_catalog.pdf?sequence=1&isAllowed=y](https://wedocs.unep.org/bitstream/handle/20.500.11822/27819/WMA_catalog.pdf?sequence=1&isAllowed=y)

## Annex II: Response list

Type of support to be needed		Available resource and opportunity	Note by the WMA leads
	that have been replaced with alternatives		<p>resources for the appropriate target in an effective manner.</p> <ul style="list-style-type: none"> <li>The WMA leads encourage partners, especially from NGOs, IGOs, individual experts, to provide information on their expertise/services on mercury waste management envisaged to be included in the Catalogue.</li> </ul>
Legal structure	Development and implementation of national legislation for mercury wastes in line with the Minamata Convention	<ul style="list-style-type: none"> <li>Minamata Initial Assessment</li> <li>Technical guidelines</li> </ul>	Practical information on the implementation of legislation and practices for the ESM of certain types of mercury wastes would be beneficial.
	Enforcement of laws on ASGM tailings for informal sector	“Guidance on developing a national action plan to reduce and, where feasible, eliminate mercury use in artisanal and small-scale gold mining”	The revised version of the guidance will be presented for consideration and possible adoption by the COP4. The WMA may be able to consider supplemental activities in cooperation with the ASGM partnership area, as appropriate, after the adoption of the guidance.
Tool and guidance	Guidance on the treatment, financing and disposal options and the transboundary movement of mercury wastes	Technical guidelines	Best practices on the (regional) transboundary movement and the ESM of (mercury) wastes, including in small island developing states may be useful.
	Guidance for disposal of mercury wastes generated from ASGM	“Guidance on the preparation of national action plans for artisanal and small-scale gold mining”	The revised version of the guidance will be presented for consideration and possible adoption by the COP4.
	List of regionally and globally accessible disposal facility	<ul style="list-style-type: none"> <li>Information submitted by Parties regarding treatment facilities of wastes consisting of mercury pursuant to Article 21 of the Minamata Convention.</li> <li>“Catalogue of Technologies and Services on Mercury Waste Management – 2021</li> </ul>	<ul style="list-style-type: none"> <li>The WMA may be able to additionally collect information on facilities where wastes containing or contaminated with mercury can be treated.</li> <li>The WMA leads note that there was a similar request raised at the Mercury supply and storage area meeting. The WMA is currently coordinating with the Secretariat of the</li> </ul>



## Annex II: Response list

Type of support to be needed		Available resource and opportunity	Note by the WMA leads
		version”	Partnership to organize webinars on the distribution of the treatment facilities of mercury wastes around the world. <ul style="list-style-type: none"> <li>The Catalogue may be an appropriate resource to be built on.</li> </ul>
	General literature for the public on the benefits of segregating mercury-added products		The WMA leads believe many countries encourage the segregation of wastes of mercury-added products from other wastes, but further consideration is needed, including the communication and outreaching strategy to the general public.
	Assessment of national situation (including inventory) to quantify the different categories of mercury wastes	<ul style="list-style-type: none"> <li>Minamata Initial Assessment</li> <li>Global Mercury Waste Assessment<sup>13</sup></li> </ul>	The WMA may consider how to support countries in developing a detailed inventory of mercury wastes, particularly those identified that the ESM of mercury wastes is the significant challenge in the Minamata Initial Assessment.
Funding	<p>Project/technologies directed to mercury waste management and supply and storage</p> <p>Project/technologies to assess new technologies for the treatment of contaminated sites and stabilization</p> <p>Funding to cover export fee to the final disposal facility</p> <p>Funding for infrastructure development for toxic waste including wastes containing mercury</p>	GEF, SIPs Special Programme and other bilateral/multilateral partnership	The WMA leads note that the WMA may not be the best-suited platform to provide financial/technical supports, but is well-positioned to function as a platform where facilitate the dialogue among stakeholders for providing specific solutions needed. Information and lesson learnt from individual activities or projects undertaken by partners would be useful in this regard.

<sup>13</sup> <https://www.unep.org/ietc/ja/node/59?%2Fresources%2Fpublication%2Fglobal-mercury-waste-assessment-report-review-current-national-measures=>

**Annex II: Response list**

Type of support to be needed		Available resource and opportunity	Note by the WMA leads
Collaboration with other Partnership areas	Establishment of regional and/or national storage/disposal sites for countries not capable of solidifying elemental mercury with the Supply and Storage area		Best practices on the (regional) transboundary movement and the ESM of (mercury) wastes, including in small island developing states may be useful.
	Teaching mercury-free gold extraction techniques with the ASGM area	“A practical guide: Reducing mercury use in artisanal and small-scale gold mining” <sup>14</sup>	The WMA leads will share this request with the ASGM area for possible future activities.
	Guidance for disposal of mercury waste generated from ASGM with the ASGM area	“Guidance on the preparation of national action plans for artisanal and small-scale gold mining”	The revised version of the guidance will be presented for consideration and possible adoption by the COP4. Supplemental activities could be further considered by the WMA in cooperation with the ASGM area, as appropriate, after the adoption of the guidance.
	Enforcement of laws on ASGM tailings management for the informal sector with the ASGM area	“Guidance on the preparation of national action plans for artisanal and small-scale gold mining”	

<sup>14</sup> [https://www.unido.org/sites/default/files/files/2017-11/ASGM\\_English%20%281%29.pdf](https://www.unido.org/sites/default/files/files/2017-11/ASGM_English%20%281%29.pdf)