



**MINAMATA  
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ON MERCURY**

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**Conference of the Parties to the  
Minamata Convention on Mercury  
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Item 5 of the provisional agenda\*

**International cooperation and coordination**

**Report on activities undertaken within the Global Mercury  
Partnership of the United Nations Environment Programme**

**Note by the secretariat**

The annex to the present note sets out a report on activities undertaken within the Global Mercury Partnership of the United Nations Environment Programme during the period from March 2022 to July 2023. The report provides an overview of overarching activities undertaken by the Partnership, including on work conducted pursuant to decisions of the Partnership Advisory Group. On the basis of input received from the leads and co-leads of each Partnership area, it also presents highlights of Partnership area activities during the reporting period, as well as some of the future work planned. The report is presented as received, without formal editing.

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\* UNEP/MC/COP.5/1.

**Annex\***

## **Report on activities undertaken within the United Nations Environment Programme Global Mercury Partnership (March 2022–July 2023)**

### **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”) focuses on supporting timely and effective implementation of the Minamata Convention on Mercury, on providing state of the art knowledge and science on mercury, and on delivering outreach and awareness raising towards global action on mercury.

The Partnership is structured around eight priorities for action or so-called “Partnership areas”, namely: artisanal and small-scale gold mining (ASGM), mercury cell chlor-alkali production, mercury air transport and fate research, mercury in products, mercury releases from coal combustion, mercury waste management, mercury supply and storage, and mercury releases from the cement industry.

The Overarching Framework of the Partnership outlines that regular reports on activities undertaken within the Partnership will be submitted to meetings of the Conference of the Parties to the Minamata Convention. The present report provides an overview of overarching activities undertaken by the Partnership during the period from March 2022 to July 2023, including on work conducted in a cross-cutting manner amongst Partnership areas pursuant to decisions of the Partnership Advisory Group (PAG). On the basis of input received from the leads and co-leads of each Partnership area, it also presents highlights of Partnership areas activities during the reporting period, as well as some of the future work planned.

### **II. Overview**

#### **Participation**

The number of partners of the Global Mercury Partnership is steadily growing:

- As of 31 July 2023, there were 251 official partners of the Partnership, including 38 governments, 11 international organizations, 84 non-governmental organizations (NGOs), 65 industry/private sector as well as 53 academia and others.
- Some partners are global industry associations or federations of civil society organizations that collaborate with and represent a larger number of national entities/associations. In addition, the Partnership works with a number of stakeholders that have not yet officially joined. The Partnership also closely collaborates with the Secretariat of the Minamata Convention as well as with other UN agencies.

#### **Organisation**

Leads of individual Partnership areas are as follows:

- **Artisanal and small-scale gold mining (ASGM):** The Natural Resources Defence Council (NRDC), the United Nations Environment Programme (UNEP) and the United Nations Industrial Development Organization (UNIDO);
- **Mercury cell chlor-alkali production:** The Environmental Protection Agency of the United States and the United Nations Industrial Development Organization (UNIDO);
- **Mercury air transport and fate research:** The National Research Council (CNR)<sup>2</sup> - Institute of Atmospheric Pollution Research, Italy, the Biodiversity Research Institute (BRI) and the Dartmouth College;

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\* The annex has not been formally edited.

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

<sup>2</sup> Consiglio Nazionale delle Ricerche

- **Mercury in products:** The Environmental Protection Agency of the United States and the Zero Mercury Working Group (ZMWG);
- **Mercury releases from coal combustion:** The International Centre for Sustainable Carbon (ICSC) and the Macquarie University (Australia);
- **Mercury waste management:** The Ministry of the Environment of Japan and Ms. Misuzu Asari, Graduate School of Global Environmental Studies, Kyoto University (Japan);
- **Mercury supply and storage:** The Ministry of Environment of Uruguay;
- **Mercury releases from cement industry:** The Global Cement and Concrete Association (GCCA) and the Ministry of Climate Change of Pakistan.

### Partnership Advisory Group

The Overarching Framework of the Partnership establishes a Partnership Advisory Group (PAG) to, amongst others, serve the Partnership and encourage the work of its Partnership areas. Its membership includes Partnership area leads, partners nominated by the Partnership areas and other representatives. Observers may also attend meetings of the PAG.

During the reporting period, the PAG held its twelfth meeting (PAG-12) on 11 and 14 March 2022 online<sup>3</sup> and its thirteenth meeting (PAG-13) on 9 and 10 November 2022 in Paris, France and online<sup>4</sup>, back-to-back with the OECD Global Forum on Environment dedicated to mercury. Both meetings were held under the leadership of the PAG co-chairs, Rodges Ankrah, Environmental Protection Agency of the United States, and Teeraporn Wiriwutikorn, Ministry of Natural Resources and Environment of Thailand.

## III. Highlight of overarching activities

Several awareness-raising, information dissemination, experience-sharing as well as cross-cutting activities have been conducted during the current reporting period, including pursuant to decisions of the Partnership Advisory Group. Responding to decisions of the Conference of the Parties to the Minamata Convention at its fourth meeting (COP-4), the Partnership also supported intersessional work in preparation for COP-5.

### Awareness-raising, information dissemination and experience-sharing activities

**Online information sharing sessions:** the Partnership continued to roll out a series of online events to support sharing of information and experience. Interests and priority topics were identified through needs expressed in the context of meetings of the Partnership Advisory Group and the areas of work. The following online sessions have been organized during the current reporting period:

- In July 2023, as a follow-up to the study report on “Mercury from the oil and gas sector”<sup>5</sup>, the Partnership and its areas of work on mercury supply and storage and mercury waste management organized a webinar to share experiences and best practices in the management of mercury along the oil and gas value chains<sup>6</sup>.
- In June 2023, together with its area of work on ASGM, the Partnership hosted an information sharing session to present ongoing U.S Department of State granted mercury related projects in the ASGM sector<sup>7</sup>.

<sup>3</sup> [www.unep.org/globalmercurypartnership/events/unep-event/partnership-advisory-group-meeting-12](http://www.unep.org/globalmercurypartnership/events/unep-event/partnership-advisory-group-meeting-12)

<sup>4</sup> [www.unep.org/globalmercurypartnership/events/unep-event/partnership-advisory-group-meeting-13](http://www.unep.org/globalmercurypartnership/events/unep-event/partnership-advisory-group-meeting-13)

<sup>5</sup> The full report may be found at: [wedocs.unep.org/bitstream/handle/20.500.11822/41126/mercury\\_from\\_oil\\_and\\_gas.pdf?sequence=3&isAllowed=y](https://wedocs.unep.org/bitstream/handle/20.500.11822/41126/mercury_from_oil_and_gas.pdf?sequence=3&isAllowed=y)

<sup>6</sup> [www.unep.org/globalmercurypartnership/events/unep-event/managing-mercury-along-oil-and-gas-value-chains-sharing-experience-and-best](http://www.unep.org/globalmercurypartnership/events/unep-event/managing-mercury-along-oil-and-gas-value-chains-sharing-experience-and-best)

<sup>7</sup> [www.unep.org/globalmercurypartnership/events/unep-event/webinar-us-department-state-mercury-grants-artisanal-and-small-scale-gold-mining](http://www.unep.org/globalmercurypartnership/events/unep-event/webinar-us-department-state-mercury-grants-artisanal-and-small-scale-gold-mining)

- The Partnership areas on mercury cell chlor-alkali production and mercury waste management jointly convened in February 2023 a webinar to exchange on the sound management and elimination of mercury and mercury waste in the chlor-alkali sector<sup>8</sup>.
- In September 2022, an information sharing session was organized on “Minamata Initial Assessments: latest trends, key findings and data analysis tools”, to present initial analysis of data compiled from more than 70 national mercury inventories and discuss ongoing efforts to strengthen the UNEP Mercury Inventory Toolkit’s mass balance approach<sup>9</sup>.
- The Partnership and its area of work on mercury releases from the cement industry organized in June 2022 a webinar on “Best practices to reduce mercury emissions from the cement industry” to exchange on current knowledge about best approaches to control and reduce emissions of mercury from the cement sector and share information on existing guidance.
- The Partnership also contributed to several “Minamata Online” sessions, such as on technical guidelines on mercury waste management together with the area of work on Mercury Waste Management in October 2022<sup>10</sup>.

**Side events organized in the margins of the meetings of the Conferences of the Parties to the Basel, Rotterdam, and Stockholm conventions:**

- In May 2023, the Partnership co-organized a side event on mercury waste management, together with the secretariats of the Minamata and of the Basel, Rotterdam, and Stockholm (BRS) conventions, Burkina Faso, and Switzerland to address challenges in managing and disposing of mercury waste<sup>11</sup>.
- In June 2022, the Partnership and its areas of work on mercury waste management and mercury supply and storage, as well as the Secretariat of the Minamata Convention, organized a side event on “Mercury wastes: latest developments, tools and practices for their environmentally sound management”<sup>12</sup>.

**Development of thematic knowledge hubs:** in the context of GEF-funded projects related to mercury in products, the Partnership has initiated the development of new knowledge hubs to support the dissemination of information on mercury containing skin lightening products and dental amalgam.

- The Partnership is involved in the GEF funded project on “Eliminating Mercury Skin Lightening Products” implemented by UNEP and carried out by WHO and the Biodiversity Research Institute in collaboration with the Governments of Gabon, Jamaica, and Sri Lanka who will spearhead the work at the national level. Over a period of 3 years, the project is designed to phase-out mercury containing skin lightening products in the three project countries, through: (i) support to governments in the development or strengthening of existing legislation and regulation to phase out skin lightening cosmetics as per the Minamata Convention; (ii) engagement of supply chain actors to stop production, trade and distribution of skin lightening products; (iii) strengthening of national capacities in testing and monitoring the skin lightening products and providing training of custom agents; and (iv) awareness-raising on the issue in the project countries. In the framework of its technical support, the Partnership has developed a knowledge hub on its website<sup>13</sup>. It is intended as a tool for sharing information about the project, but also about the issue of the use of mercury-containing cosmetics in general. It presents the context and objectives of the project, news and resources on the subject and the community of practice that has been established.
- The Partnership is also involved in the GEF funded project on phasing down the use of dental amalgam, implemented by UNEP and executed by WHO. The project aims at phasing down

<sup>8</sup> [www.unep.org/globalmercurypartnership/events/webinar/webinar-sound-management-and-elimination-mercury-and-mercury-waste-chlor-alkali](http://www.unep.org/globalmercurypartnership/events/webinar/webinar-sound-management-and-elimination-mercury-and-mercury-waste-chlor-alkali)

<sup>9</sup> [www.unep.org/globalmercurypartnership/events/webinar/webinar-minamata-initial-assessments-latest-trends-key-findings-and-data-analysis](http://www.unep.org/globalmercurypartnership/events/webinar/webinar-minamata-initial-assessments-latest-trends-key-findings-and-data-analysis)

<sup>10</sup> [www.unep.org/globalmercurypartnership/events/unep-event/minamata-online-technical-guidelines-mercury-waste-management](http://www.unep.org/globalmercurypartnership/events/unep-event/minamata-online-technical-guidelines-mercury-waste-management)

<sup>11</sup> [www.unep.org/globalmercurypartnership/events/unep-event/brs-cops-side-event-mercury-waste-management-9-may-2023](http://www.unep.org/globalmercurypartnership/events/unep-event/brs-cops-side-event-mercury-waste-management-9-may-2023)

<sup>12</sup> [www.unep.org/globalmercurypartnership/events/unep-event/brs-cops-side-event-mercury-wastes-latest-developments-tools-and-practices-their](http://www.unep.org/globalmercurypartnership/events/unep-event/brs-cops-side-event-mercury-wastes-latest-developments-tools-and-practices-their)

<sup>13</sup> [www.unep.org/globalmercurypartnership/our-work/mercury-products/eliminating-mercury-skin-lightening-products](http://www.unep.org/globalmercurypartnership/our-work/mercury-products/eliminating-mercury-skin-lightening-products)

dental amalgam use through improved policies and technical capacity, improved management of mercury and hazardous waste from dental use, as well as managing knowledge and global awareness. Information on the project would be made available amongst others through the [knowledge hub](#)<sup>14</sup>. As the platform on skin lightening cosmetics, the online knowledge hub on dental amalgam aims to share information and resources on the project and existing knowledge on the topic.

**General outreach through the Partnership network:** the Partnership has continued to release its newsletters on a quarterly basis as well as regular e-mailing announcements, to further enhance communication and outreach. The newsletter features highlights by Partnership areas and partners, relevant resources and publications, introduction of new partners, upcoming and past events, and is being circulated to all partners and interested stakeholders.

## Cross-cutting work on mercury related issues

### Mercury from oil and gas and from non-ferrous metals mining and smelting

Pursuant to the decision of the PAG at its tenth meeting (Geneva, 23 November 2019), the Partnership initiated work on mercury from oil and gas and from non-ferrous metals mining and smelting.

Technical study reports were developed on these two topics, under the guidance of the PAG co-chairs, Partnership Areas co-leads and with input from interested partners and stakeholders<sup>15</sup>. At its twelfth meeting, the PAG was presented by the lead authors, Peter Nelson (Macquarie University) for the report on mercury from non-ferrous metals, and Lilian Corra (International Society of Doctors for the Environment – ISDE) for the report on mercury from oil and gas, major findings and areas identified where future work may be needed. Final versions of the reports were made available to the PAG at its thirteenth meeting, which also discussed next steps for future work and made a number of suggestions<sup>16</sup>, highlighting the need to further disseminate both reports, raise awareness and exchange with relevant stakeholders, including with both sectors and further explore the relevance of dedicated Partnership areas.

At the time of this report, an online information sharing session on mercury from oil and gas was organized in July 2023 (see above section) and one on mercury from non-ferrous metals is planned to be held in the coming months.

### Other topics for future work

At its thirteenth meeting, the PAG exchanged on further priorities for future work and potential cross-cutting initiatives in the context of the Partnership, namely with respect to: (a) trade and flow, (b) technical and scientific capacity enhancement, (c) management of mercury stocks, (d) biodiversity, climate change and mercury; (e) disposal of mercury added products at the national level; and (f) other topics. Key outcomes included the following suggested next steps:

- Organizing an online session on trade and flow to disseminate current knowledge on these issues, as well as related topics such as online sales and trade in mercury compounds.
- Enhancing technical and scientific capacities, notably through the development of thematic knowledge hubs, strengthening of information sharing, but also reinforced use of effective visual materials and tools.
- Further work on the management of mercury stocks and disposal of mercury added products at national level, considering for instance the mapping of existing technologies and storage facilities, the development of a background note on specific key challenges, and the adequate support to countries in the sound management of seized mercury among others.
- Increased attention to relationships between mercury matters, climate change and biodiversity in the context of the triple planetary crisis. In this context, a global literature review on ASGM and biodiversity has been conducted under the Partnership between September 2022 and May

<sup>14</sup> [www.unep.org/globalmercurypartnership/our-work/mercury-products/phasing-down-the-use-of-dental-amalgam](http://www.unep.org/globalmercurypartnership/our-work/mercury-products/phasing-down-the-use-of-dental-amalgam)

<sup>15</sup> Further background on the development of the report may be found on the website of the Partnership at [www.unep.org/globalmercurypartnership/node/26904/](http://www.unep.org/globalmercurypartnership/node/26904/) and [www.unep.org/globalmercurypartnership/node/26905/](http://www.unep.org/globalmercurypartnership/node/26905/)

<sup>16</sup> For further details, see report of PAG 13 available at: [www.unep.org/globalmercurypartnership/events/unep-event/partnership-advisory-group-meeting-13](http://www.unep.org/globalmercurypartnership/events/unep-event/partnership-advisory-group-meeting-13)

2023, and the resulting scientific article is currently being finalized for a publication under the Special Issue on Mercury Ecotoxicology of BRI.

### Cooperation on intersessional work for COP-5

At its fourth meeting, the Minamata Convention COP reiterated the importance of continuing the cooperation with the Partnership on intersessional work. The Partnership was subsequently invited to participate in intersessional work towards COP-5 as per mandates received on:

- The development of guidance document on best available techniques and best environmental practices to control releases from relevant sources (decision MC-4/5);
- The development of mercury waste thresholds (decision MC-4/6);
- Contributions to the second review of the financial mechanism relative to the Partnership interaction with the financial mechanism in advancing the implementation of the Convention (decision MC-4/7): the Partnership through the PAG Chair shared observations with respect to experiences with the financial mechanism of the Convention between August 2019 and July 2022;
- The provision of input into the Gender Action Plan (decision MC-4/10);
- The participation in the Open-ended Scientific Group for the effectiveness evaluation (decision MC-4/11).

Collaboration with the Secretariat of the Minamata Convention also extended to contributions to the development of the report on trade, supply, and demand of mercury, as well as cooperation on awareness raising, technical and capacity-building activities, for example on mercury-containing products and the sound management of mercury waste.

## IV. Activity Report by Partnership area

### 1) Artisanal and small-scale gold mining (ASGM)

a) The objectives of the Partnership area are the continued minimization and elimination, where feasible, of mercury uses and releases in artisanal and small-scale gold mining.

Lessons learnt and ways forward: Creating alternatives to mercury amalgamation remains a key challenge, one that is being tackled by many partners, as described in the key activities section below. Alternatives should be affordable, cleaner, and more efficient at extracting gold, a combination that is well recognized by international agencies, governments, NGOs, and academics. However, such a major change in processing requires continuous efforts in formalization, education, and organization of miners. Bottom-up approaches, involving the miners, are essential. In addition to finding alternatives to mercury amalgamation, access to finance, additional formalization, and other technical and regulatory assistance as well as government support in mining areas and increased consideration of miners' needs, motivations and skills may enable changes in reducing hazardous and polluting practices.

b) Key activities in the Partnership area include:

The Partnership area chose to report on key activities by partners. Below are the activities undertaken by partners during the reporting period. Joint work is displayed per project, in order to avoid repetition.

- **GEF planetGOLD programme:** The programme, funded by the GEF, continued to assist countries to meet their obligations to reduce and where feasible eliminate mercury from ASGM. In addition to the nine countries that have been working since 2018, fifteen additional ones were added to the programme (see [www.planetgold.org](http://www.planetgold.org) for full list). Projects continue to work to transfer mercury free technology. Projects have designed new mercury-free processing systems that were either installed – or were in the process of being constructed – at project mine sites. Projects in three countries worked to strengthen existing processing plants through capacity building and provision of mercury-free equipment. Projects across the programme provided technical assistance and engaged miners and gold processors in trainings on how to utilize mercury-free technologies. Some projects additionally taught miners improved laboratory techniques, the proper management of tailings, and how to remove mercury from existing tailings. The programme also piloted different models for access to finance to overcome barriers and unlock the flows needed to finance the mercury-free transition: two projects piloted debt financing mechanisms that use an intermediary to “de-risk” the finance;



two projects developed debt mechanisms with loan guarantees; one project has participated in the creation of a Credit Surety Fund offering for miners; one project has created a model using a forward purchasing agreement with the central bank to secure a loan from participating local commercial banks; and four projects reported training miners in basic business skills and on the development of loan applications and business pitches. All projects engaged in outreach to the formal financial sector to bridge knowledge gaps about ASGM and to promote positive opportunities for financing mercury-free ASGM. Projects worked to help miners take steps to comply with relevant environmental and social standards to verify that their gold is responsibly produced, with projects reported selling responsible, mercury-free gold to the formal market, or assisting with improving systems for sale to centralized authorities. Finally, all projects have assisted and guided policy makers in improving or developing regulations in some capacity. Several projects trained government officials at national and local levels to support policy and regulatory reforms that are essential for formalization. Projects carried out capacity building activities with miners to train them on steps toward formalization, including the process for establishing cooperatives and for obtaining mining permits.

- **GEF-funded National Action Plans on ASGM:** UNEP has provided technical support to 33 countries developing National Action Plans. 26 of these have been completed. In addition to providing implementation support to individual country teams, UNEP also engaged in knowledge generation and management activities to benefit countries more broadly, including:
  - Maintenance of the knowledge hub dedicated to the NAP projects, data mining and visualization of the information contained in the submitted NAPs – results are available through interactive dashboards<sup>17</sup>;
  - Using in house experts and utilizing peer review system, providing quality check and expertise on the draft NAP documents; and
  - Providing “help desk” services and consultations on the development of NAP to participating countries.

UNIDO completed an additional 4 out of 13 UNIDO-implemented National Action Plan projects (Burkina Faso, Ecuador, Ghana, and Nigeria), and received approvals for NAP projects in Afghanistan, Bolivia, Cameroon, and Nicaragua by the GEF Secretariat.

- **Artisanal Gold Council (AGC)** focuses on formalizing, sustainable, and socially responsible ASGM. They supply responsible artisanal gold, attract socially responsible investors, and promote ethical consumer behaviors. Under the Scalable Trade in Artisanal Gold project, funded by EPRM, AGC focused on scaling up legal trade in artisanal gold. AGC is completing the policies and procedures that will help the selected ASGM communities implement due diligence. AGC is also finalizing the business plan that would be implemented by the local trade business. The AGC continued executing activities for the USDoS-funded project, "Roadmap to Responsible Gold in Guyana," which aims to help form a mercury-free social enterprise. In Peru AGC continues to implement training programs for the ASGM community for the use mercury free technology solutions in cooperation with the Ministry of Mines and Energy. AGC is also the executing agency of three planetGOLD country projects. In Burkina Faso, the team developed training programs for miners, coordinated with Coris Bank for a lending facility, and promoted responsible gold mining and scale up of legal trade. In Mongolia the team created a lending cooperative for ASGM and are conducting a gender study to improve social services for women. Two Mercury-Free Processing System (MFPS) units will start production by 2023. In the Philippines, the team is installing MFPS systems for gold production and conducting policy workshops to address sector challenges. They are also assessing mercury contamination and providing recommendations for policy improvements.
- **Appelglobal** carried out a project in Mauritania teaching mercury-free gold extraction for small-scale gold miners. The miners were impressed by the increase of gold recovery, with no need to purchase expensive mercury. The project was financed by the German Government GiZ project. The “Triple-Bottom Line Mercury Remediation & Elimination Demonstration Project in Honduras (Danish MUDP funding) is implemented by the El-Platek-Appel Global Consortium in Honduras. During the past year the project has achieved several milestones: women miner-to-miner applied demonstrations of Hg-free gravimetric approach for replacing the deeply rooted miner-mercury culture by training 16 women who recovered between 92%-100% more gold than the widely used rastra; developed & tested rotating Ag Peter Plates for remediating Hg from tailings by sending them to a rotating silver plate with controllable

<sup>17</sup> <https://www.unep.org/globalmercurypartnership/insights-asgm-national-action-plans>

velocity & vibrational frequencies (Hg recovery was 64% -99%); tested a prototype Hg recovery furnace & retort system, where silver plate with adsorbed mercury is inserted into the furnace, volatilized at temperatures 400+ degrees, aspirated using a modified retort system, weighed and safely stored for shipping to Switzerland. The furnace prototype is ready for shipping. Calculations estimate that the expected Hg recovery from the tailings to be c. 95% Hg from the tailings; Tested prototype #2 for recovering gold from tailings processed in rastras – since miners are only interested in recovering gold, not mercury, Prototype #1 and #2 must be used together to ensure tailings-mercury is also extracted. The prototype works with the mill developed for Prototype #1 after mercury has been removed. Calculations estimate that the expected gold recovery from the tailings to be c. 80 -85% from the tailings.

- **ASSM Consult ApS:** In September 2022 ASSM Consult implemented a training in Maputo in Mozambique in ASM and related issue for 36 participants from 12 English and 5 Portuguese speaking countries in Southern African Region. A Handbook with country contributions and contributions from trainers (270 p) was published in December 2022 and a Portuguese version in February 2023. In March 2023 a training in ASM and related issues for 34 participants from French speaking Central and Northern African Region was implemented. A Handbook with country contributions and contributions from trainers (490 p) was published in April 2023.
- **Daiichi Institute of Technology (DIT):** Prof Murao's team (Prof Yamada at Waseda University and Prof Tomiyasu at Kagoshima University) successfully carried out three ASGM studies from April 2022 to March 2023. This included drilling a gold tailings deposit and convening a meeting in October 2022 with a local government based on the result. In February 2022 the Ministry of the Environment Japan sent a mission led by Prof Murao to Indonesian ministries and other institutions. In March 2023 Prof Murao visited Tanzania and talked with key persons of ASGM including PDI and ministries. He also gave lectures about ASGM to Belgrade University, JICA Tanzania Office, and environmental NGOs.
- **European Environmental Bureau EEB/ZMWG:** In the context of the ACP-MEAs programme of UNEP, EEB/ZMWG started a collaboration in February 2022 with two African NGOs: UNACOH in Uganda and WoME in Sierra Leone. Both projects ended in February 2023. The main outcomes of the UNACOH's project were: 224 district women and men leaders and miners received information on mercury toxicology in ASGMs and alternative method of gold extraction; 60 women and men miners were trained in the Gravity Concentration Method with borax; 25 women and men artisanal miners leaders can now train fellow miners; guidelines for management of the training facility have been developed; all levels of leaders were sensitised about the need for a By-Law protecting the health of miners and the environment; and a Preliminary Draft of Amudat District Bylaw on Mercury Free gold extraction has been developed. Main outcomes of the WoME's project were: 90 women attended Mercury Awareness and Occupational Health and Safety training in Bo, Tonkolili, and Kono Districts. The participants are now knowledgeable on the hazardous effects of mercury in mining activities and are sensitizing other miners and encouraged other women miners to avoid using mercury by sharing the information that they learned from the WoME trainings. The 90 participants were also trained in entrepreneurship and communications skills. 300 posters on hazards linked to Mercury use were distributed at the project locations, local authorities, miners, CSOs and media.
- **Futura Jewelry:** As a member of the planetGOLD PAG Advisory Group, Futura Jewelry is called upon to educate consumers about the need for responsible sourcing of gold and their important role to help solve the issues with gold mining by making responsible choices when it comes to purchasing jewelry. Consumer's conscious jewelry decisions will lead the way for the jewelry industry to support mercury-free mined gold as a **standard** for production. Futura provided content for a documentary about the issues surrounding small scale artisanal gold mining and the positive actions consumers can take to mitigate the worldwide challenges we face. The film was produced by Viewpoint with Dennis Quaid and appeared on National TV in the US twice and is currently airing on the top 100 public television stations in the US. Futura has also expanded its reach and ethical gold jewelry messaging into several new retail partners whose brand ethos supports the need for sustainability and responsibility when it comes to people and environment.
- **Institute for Sustainable Mining aka Artminers:** Cleangold pilot project was conducted with ConservationX and CITE Minerals in Madre de Dios region of Peru. After the project's completion, CITE won funding from ProInnovate to bring Cleangold back for scale up.



- **Laboratorio de Farmacologia Molecular - Universidade Federal do Pará:** The lab worked to improve the law on human exposure to mercury in Brazil: in collaboration with other Amazonian institutions, they have written the national bill, titled “National Policy For Prevention Of Exposure To Mercury,” currently being evaluated by the Brazilian Senate<sup>18</sup>, that will allow the registration of cases both by health professionals and researchers working with the most isolated communities, generating data that can guide public policies oriented to the prevention and remediation of human exposure. They have claimed international attention on i) the situation of mercury in the Amazon with critical considerations based on current data and our field experience, and realistic proposals to improve the current scenario<sup>19</sup>, and ii) the possible synergic consequences between COVID-19 and mercury intoxication with proposals for future research<sup>20</sup>. They demonstrated for the first time the correlation between mercury levels in humans and blood apolipoproteins, supporting the Apo B/Apo A-1 ratio as an early marker to detect mercury alterations contributing to cardiovascular risk<sup>21</sup>. Based on the 15 years of experience with research of Amazonian vulnerable populations, they launched a course titled “Development of research with vulnerable populations” for PhD students and health professionals.
- **Manipueira Gold Recovery Technology, Inc. (f.k.a.) Alchemy Mining Group, Inc.:** The company prepared design schematics in an interactive flow chart prototyping the world’s first sustainable precious metals leaching center using manipueira, a plant-based extract solution from the bitter cassava plant as a lixiviant scientifically documented and proven to recover more gold from ore than by using mercury. On August 20, 2022, Bruce Cosgrove, Pres./CEO published a pre-print Article for the Journal of Cleaner production titled “An Examination and a Solution to replace the use of Mercury in Artisanal Ore Processing”. The Company has completed its Action Plan and is currently seeking investment to implement work in Zaruma Ecuador.
- **Pact** has continued to execute ASGM development projects which focus on mercury abatement through direct and tangible support to ASGM miners in Sierra Leone (funded by GIZ), Mauritania (funded by EPRM), Mali (funded by US-DOS), and Ghana (funded by US-DOS). In each of these projects, mercury abatement activities are delivered in an integrated manner with ASM formalization and business management support, including workshops and learning opportunities that are extended to mining communities as well as government agencies, and local authorities. Mercury-free mineral processing equipment and facilities have been setup or installed in each of the four countries listed (progress varies by country and project). In Mali, Pact and the Ministry of Mines have also engaged diverse government departments, comptoirs, gold refiners, and civil society partners in multiple workshops to discuss obstacles and actions for formal gold trade and supply chain due diligence, as summarized in a Policy Paper validated by Malian stakeholders.
- **Pan American Health Organization/World Health Organization:** PAHO organized and implemented a training, in Spanish, to support development of public health strategies, with attention to health and gender in ASGM communities, working with Bolivia, Ecuador and Peru. The training has a hybrid format including virtual course at PAHO Virtual Campus and face to face workshop (September 2023) in Ecuador to validate the public health strategies. Invited participants were from Ministries of health and NGOs.
- **Population And Development Initiative:** In the context of Responsible Mining Program which commenced in 2021, PDI is working with 60 trained agents of change with support from Responsible Mining Foundation and Innovation for Change Africa Hub (I4C) and Hilden Charitable Fund. For the period of January-May 2023, PDI administered the Mine Site Assessment Tool as a social accountability tool to conduct 15 dialogue sessions with the total of 420 participants including mining operators, villagers, village leaders, mining associations and other social groups in key issues such as tailings management, workers' training, women workers' issues, local procurement, local employment, and community complaints mechanisms in mining areas among other aspects. Through the Responsible Mining Program, PDI hopes to improve working environments for youth and women in mining areas as well as constructive relationships through dialogues of mining operators, mining associations, media, villagers, miners, and other relevant stakeholders and introduce safer technologies, such as

<sup>18</sup> <https://www25.senado.leg.br/web/atividade/materias/-/materia/156091>

<sup>19</sup> <https://doi.org/10.1016/j.ecoenv.2023.114895>

<sup>20</sup> <https://doi.org/10.3390/ijerph20054207>

<sup>21</sup> <https://doi.org/10.1016/j.envres.2023.115971>

mercury-free gold mining, to the terrestrial and aquatic environments in mining areas through dialogues with miners and mining operators and community members. PDI is working with other 5 local partners in Geita district to produce case studies on socioeconomic, environmental, and human rights among mining communities in Tanzania.

- **Pure Earth** developed and won an innovation award (by Conservation x Lab) to clean up mercury contaminated tailings through an isolated model using copper plates (December 2022). Pure Earth also installed the first temporary mercury storage unit for the Colombian government and implemented a mercury management protocol for its correct final disposal. Training of more than 50 miners in the sector of California, Santander, Colombia in the use of copper plates in their operations was carried out. Training was conducted for members of the Costa Rican government in the management of mercury contaminated tailings, identification of potential contaminated sites with mercury and the use of mercury index to prioritize sites.
- **Sustainable Alluvial Mining Services (SAMS)**: SAMS has been involved in several online activities, including (1) advocating and conducting awareness, on mercury and other general issues, through social media platforms and has also written articles on issues affecting the sector through their website blogs; (2) participating in numerous presentations on the DELVE Southeast Asia and Pacific forums basically advocating for formalization in the ASGM Sector; (3) appointed as Lead under the Waste Management Area's (WMA) Capacity Building and Awareness Program. SAMS participated and contributed to a number of WMA joint webinars with other Partnership areas and is currently working on a Master plan on capacity building and awareness raising on mercury waste management across all Partnership areas including the ASGM Area; and (4) released an information paper on the formalization of the ASGM Sector of PNG which is currently been reviewed by a number of academic institutions in country and abroad as well as experts in the sector. SAMS also provides advice on ASGM issues to Government and local MPs on how best ASGM can be conducted in the country.
- **University of British Columbia, Vancouver, Canada**: assisted Solidarid working for Newmont Co. in the vicinity of the Merrian Mine in Suriname. Gold balances were conducted in various operations to find out the efficiency of their gold concentration process. After adjusting some parameters in the concentration of gold, will help miners to reduce or eliminate the use of mercury in the final gold extraction from concentrates. Other activity is related to a similar project being conducted in Nigeria through the Alinea International supported by the Canadian Government to reduce and eliminate mercury in the ASGM operations. They have provided instructions to the technical personnel of the Dept of ASGM of the Ministry of Mines and Steel Development and demonstrate methods to the miners in the field how use retorts and even avoid use of mercury. Other project is supported by UNEP through University of São Paulo, to first obtain a balance of gold production and mercury lost in a large number of operations in Brazil. Finally, with the company CIBUS, a large producer of cassava starch in Brazil, they are continuing tests with a manipueira (liquid from cassava) to leach gold from an artisanal operation near the CIBUS plant. Some initial tests with an artisanal gold ore from Colombia using a manipueira from CIBUS, we have obtained 82% gold extraction in 24 hours. The mine and the CIBUS are enthusiastic with the possibility to use the 90 t of manipueira daily produced to generate starch.

c) Planned future activities include:

- As some countries are finalizing the development of their NAPs, the Partnership area will focus on activities that support implementation of these plans, as well as continue to support sharing of NAP experience among governments, including through the planetGOLD programme and numerous bilateral activities.
- The Partnership area has had some success attracting more private sector partners and will continue to foster their greater collaboration and engagement.
- The Partnership area will continue to act as a critical information-sharing mechanism amongst Parties to the Convention.

## 2) Mercury cell chlor-alkali production

a) The objectives of the Partnership area are to:

- Prevent the construction of new mercury-cell chlor-alkali production facilities;
- Reduce mercury emissions and use from existing mercury-cell facilities;
- Encourage conversion to non-mercury processes;

- Reduce or eliminate mercury releases from waste generated by chlor-alkali production facilities including waste from conversion to non-mercury processes; and
  - Promote environmentally sound options for storage of surplus mercury to limit downstream releases from surplus mercury generated by the conversion, phase-out, or closure of mercury-cell chlor-alkali facilities.
- b) Key activities in the Partnership area are presented below.
- UNEP, Mexico's Secretariat of Environment and Natural Resources (SEMARNAT), and CYDSA, S.A de C.V (private sector) are finalizing the agreements of a project to convert/decommission two remaining mercury cell chlor-alkali facilities in Mexico, including plans for the management of mercury waste and contaminated sites related to the two facilities. Once agreements are signed, the Project Steering Committee will gather to among others discuss the organization of the inception workshop.
  - ABICLOR and CLOROSUR, on behalf of the chlor-alkali Partnership area, have been coordinating efforts to assist the remaining four chlor-alkali plants in Brazil to phase-out mercury from their operations. These efforts have included facilitating the search of funds for both replacement with membrane facilities and treatment, as well as stabilization and disposal (storage) of the mercury wastes. COVID-19 has complicated project financing as the Brazilian Real (BRL) has been significantly devalued over the last year.
  - The Partnership areas on mercury cell chlor-alkali production and on mercury waste management joined forces to host a webinar on the sound management and elimination of mercury and mercury waste in the chlor-alkali sector on 16 February 2023. The session intended to shed light on the techniques, tools, and best technologies available for the phase-out of mercury-based technologies. It also provided an opportunity to discuss the sound management of mercury waste in the chlor-alkali sector, considering financially viable options for an effective phase-out and mercury waste management. Further information is available on the [event page](#)<sup>22</sup>.
  - The World Chlorine Council reported that two mercury-cell facilities amongst its membership shut-down in 2020<sup>23</sup>.
- c) Planned future activities include:
- Organizing the annual meeting of the Partnership area;
  - Continuing to collect more information from countries on ongoing and potential conversion projects;
  - Providing technology advice for potential chlor-alkali conversions;
  - Facilitating the acquisition of financing for promising potential conversion projects;
  - Increasing focus on addressing stocks management and disposal for converted facilities; and
  - Increasing cross-Partnership collaboration, especially with the Partnership areas on mercury supply and storage and on mercury waste management.

### 3) Mercury air transport and fate research

a) The main objective of the Partnership area is to increase global understanding of international mercury emissions sources, fate, and transport, by:

- Accelerating the development of sound scientific information to address uncertainties and data gaps in global mercury cycling and its patterns (e.g., emission sources, air concentrations and deposition rates, source-receptor relationships, hemispheric-global air transport/transformation, mercury in biota, and spatial and temporal variations driven by ecosystem sensitivity);
- Enhancing compilation and sharing of such information among scientists as well as between them and policymakers.

The specific objectives are:

<sup>22</sup> <https://www.unep.org/globalmercurypartnership/events/unep-event/partnership-area-mercury-cell-chlor-alkali-production-2022-meeting>

<sup>23</sup> [web.unep.org/globalmercurypartnership/world-chlorine-council-report-unep-chlor-alkali-partnership-data-2020](http://web.unep.org/globalmercurypartnership/world-chlorine-council-report-unep-chlor-alkali-partnership-data-2020)

- To support the implementation of the Minamata Convention and the development of a globally coordinated database and monitoring system for measuring mercury levels in air and in marine and terrestrial ecosystems, all of which may contribute to the assessment of the effectiveness of measures taken;
- To assist relevant stakeholders involved, including Parties to implement the necessary actions to fulfil the requirements of the Convention and its objectives;
- To gather up-to-date information on mercury contamination worldwide and support capacity building activities to transfer knowledge on mercury monitoring and best practices to all relevant stakeholders involved;
- To facilitate the dialogue between the scientific community, policymakers, and other relevant stakeholders.

b) Key activities in the Partnership area include:

CNR in cooperation with other participating institutions continued the development of the GOS4M Knowledge Hub<sup>24</sup> (GOS4M KH) to support the Minamata Convention Secretariat and all interested Parties in the effort to prepare the Effectiveness Evaluation of the Convention. The GOS4M KH was presented in several past events (ie., OESG meetings, COP2, COP3) and recently in the “*Data management meeting in support of Effectiveness Evaluation (EE) for Minamata*” held virtually on 31 October 2022 where major existing Hg monitoring networks and monitoring data repository systems were presented. The outcomes of the workshop were presented to the OESG to inform on existing platforms and systems that the OESG could consider as data management infrastructure for the Effectiveness Evaluation.

**Biodiversity Research Institute (BRI)** has supported countries and intergovernmental organisations in activities to improve mercury assessment and monitoring capabilities as follows:

- Global Biotic Mercury Synthesis (GBMS) Database: work continued for the development of a global database that is a compilation and synthesis of published fish, sea turtle, bird, and marine mammal mercury data collected from all over the world. The GBMS database provides a standardized and comprehensive platform for understanding mercury concentrations in biota that can aid parties to the Minamata Convention during their ratification and implementation process and may support the effectiveness evaluation discussions under the Convention.
- Generated communication pieces to enhance the understanding of policymakers of scientific findings, on topics such as mercury monitoring of air, biota, humans, and certain products. This includes the ongoing work for the development of the *Ecotoxicology* scientific journal’s *Special Issue on Mercury: Global environmental mercury loads in biota and impacts on biodiversity*. The issue will include a comprehensive global analysis of spatiotemporal patterns of mercury exposure and effect to biota, which requires obtaining and synthesizing critical information from known as well as remote and/or poorly documented areas. As part of this investigative synthesis, environmental mercury loads will be documented geographically by major biomes (Arctic, Temperate, and Tropical) and their associated freshwater and marine waters, as well as for major taxa (elasmobranch and teleost fish, reptiles, birds, and mammals). A synthesis paper of much of the published mercury data for fish, sea turtles, birds, and marine mammals will be a core part of this special issue, as will the development of a global model assessing ecosystem sensitivity, risk, and threats to biota, as well as biological diversity. The special issue is expected to be published by October 2023.
- GEF funded development of Minamata Initial Assessment in the Federated States of Micronesia (MIA FSM): BRI is the co-executing agency for the project and is currently working with the Government to develop the activities, which may include as in-kind contributions a rapid assessment of mercury analysis in fish among other core project activities. The project is expected to be completed by early 2024.
- Development of Minamata Initial Assessments in the Pacific Region: BRI, as the technical consultant engaged by the Secretariat of the Pacific Regional Environment Programme (SPREP), is currently developing the Minamata Initial Assessments for seven (7) Pacific countries. The MIA Report for 1 of the 7 (Vanuatu) has been completed and published on the Minamata Convention’s website. The remaining MIA Reports are expected to be completed by the last quarter of 2023. Further biomonitoring activities may be conducted as in-kind

<sup>24</sup> [www.gos4m.org/](http://www.gos4m.org/)

contributions to assist interested countries in improving their mercury assessment and monitoring capacities.

- Review of MIAs under contract with UNEP, before their onward submission to the Secretariat of the Minamata Convention and provide feedback to the Implementing Agencies and focal points of the Country.
- GEF Eliminating Mercury Skin Lightening Products Project: BRI is the co-executing agency in collaboration with WHO for the global project involving Jamaica, Gabon, and Sri Lanka, implemented by UNEP. The Partnership will also be involved in the project. The project objectives are presented above, in the section on thematic knowledge hubs. Over the period, project steering committees were established, and a global inception meeting was held in Geneva in February 2023. Work is ongoing for the hosting of national inception/stakeholder engagement meetings in each project country. BRI has begun gathering baseline information and skin lightening product samples for analysis to develop a global database to inform monitoring of these products. Building national capacity of authorities for monitoring these products will also be led by BRI. The project is expected to be completed in 2025.
- U.S. Department of State Award for ASGM activities in Indonesia: BRI is executing the project to support the Government of Indonesia in restricting mercury supplies; especially for the ASGM sector, through amending the draft National Implementation Plan (NIP) and by securely storing confiscated mercury, mercury by-products, and recovered mercury from the oil and gas sector at the local level. Over this period, work continued for the achievement of the following activities: 1) legal/regulatory/policy action to restrict mercury supplies from primary mining and mercury by-products from the oil and gas sector; 2) developing and piloting Local Action Plans (LAPs) to reduce and eliminate mercury in ASGM, including safe handling, interim or temporary storage, and long-term storage of mercury and cinnabar ore to demobilize/prevent them from being recirculated into the market; and 3) monitoring implementation and compliance with national and local plans. Finalisation of project activities is expected by the end of 2023.
- Continue to support the activities of the Specific International Programme's Caribbean Region Mercury Monitoring Network executed by the Department of Analytical Services, Antigua and Barbuda for the establishment of a regional laboratory network. The project is expected to be completed in September 2023. Assisted with the development of the regional mercury monitoring network in Central Africa, being executed by the Government of Gabon. Initiation is pending.
- Participation in meetings of the OESG (Open-ended Scientific Group) for the Minamata Convention effectiveness evaluation: An in-person meeting was held in Geneva in April 2023 where OESG members and technical experts gathered to develop a scientific report which will compile, analyze, and synthesize comparable mercury monitoring data on changes in mercury concentrations in environmental media, biotic media, and the human population.
- International Conference on Mercury as Global Pollutant (ICMGP): Planning continued for the 2024 ICMGP to be held July 21st-26<sup>th</sup>, 2023 in Cape Town, South Africa. Communications with the Partnership will be forthcoming for involvement.
- Provided add-on value support to countries that may want to initiate preliminary mercury monitoring efforts with Passive Air Samplers, biota, and human biomonitoring.

#### 4) Mercury in products

a) The objectives of the Partnership area are to phase-out and eventually eliminate mercury in products and to eliminate releases during manufacturing and other industrial processes via environmentally sound production, transportation, storage, and disposal processes.

b) Key activities in the Partnership area include:

- **Technical Session – “Transitioning to Mercury-Free Lighting in Asia-Pacific Countries”:** The Partnership area on 19 and 20 June 2023 in Geneva, Switzerland, in collaboration with UNEP United for Efficiency (U4E) and the Clean Lighting Coalition, with the support of Switzerland convened a technical discussion on the challenges and next steps for transitioning to mercury-free lighting in Asia-Pacific countries. Discussions covered the challenges of hazardous waste management of fluorescent lights, including transportation, storage, and processing (disposal/recycling). Possible solutions included fostering consistent, dedicated funding for the waste management initiatives, such as through integration of waste

management costs into the purchase price of a lamp (i.e., advanced disposal fee, extended producer responsibility) and prioritizing and synthesizing efforts to “turn off the mercury tap” (i.e., phasing out fluorescent lighting) with approaches to adequately manage the mercury added lamp waste in the transition<sup>25</sup>.

- **Global workshop on the implementation of the Minamata Convention obligations on mercury-added products:** the area of work participated in the global workshop on mercury added-products organized by the Minamata Convention Secretariat from 21 to 23 June 2023 in Geneva, Switzerland. The 3 days meeting aimed at supporting Parties in complying with the obligations to phase-out the mercury-added products of Annex I Part 1, as well as phase down dental amalgam. It also provided the opportunity for Parties to exchange on current status and identified challenges in the implementation of Article 4 of the Convention<sup>26</sup>.
- **Annual Meeting:** The Partnership area held its annual meeting on April 25, 2023, providing an opportunity to exchange on latest activities, ongoing projects, and upcoming events. Presentations were provided by member Partners, including the European Environmental Bureau, the Mercury Policy Project, the Zero Mercury Working Group (ZMWG), Clean Lighting Coalition, and the European Network for Environmental Medicine/World Alliance for Mercury-Free Dentistry. Highlights included an overview of GEF-funded projects on mercury in products and an update from the Secretariat of the Minamata Convention. The event also featured the appointment of ZMWG as new co-lead.
- **Launching of the GEF funded project on phasing-out skin lightening products:** The Area joined the Partnership to participate in the global kick-off meeting of the GEF funded project on “Eliminating Mercury Skin Lightening Products” in Geneva, in February 2023. The project is implemented by UNEP and co-executed by WHO and BRI with technical support from the Partnership<sup>27</sup>. Further information on the topic and project is available on the dedicated [knowledge hub](#)<sup>28</sup>.
- **Launching of the GEF funded project on dental amalgam:** Similarly, the Partnership is involved in the GEF funded project “Accelerate implementation of dental amalgam provisions and strengthen country capacities in the environmental sound management of associated wastes under the Minamata Convention”. The project is implemented by UNEP and executed by WHO. In this context, the Partnership area attended the global kick-off meeting organized in Geneva in April 2023<sup>29</sup>. Further information on the topic and project is accessible on the dedicated [knowledge hub](#)<sup>30</sup>.
- **Mercury in Products-Specific Webinars:** In a continuing effort to provide outreach on the challenges and lessons-learned in global efforts to assess mercury-added product phase-out potential, including discussions of mercury-free alternatives, future webinars on dental amalgam and lighting are currently being planned. These efforts would seek to build on the successes of the Partnership area webinars on mercury-added medical devices and cosmetics in cooperation with WHO and ZMWG, as well as a webinar on mercury-added lamps (conducted jointly with the waste management area).
- **Skin-Lightening Cream Campaign (ZMWG)<sup>31</sup>:**
  - A new round of sampling of skin-lightening products (SLPs) started in November 2022. With the assistance of the ZMWG network, online platforms were screened and skin-lightening products, possibly containing mercury, were purchased. Testing of those products to measure mercury concentrations started in April 2023, and were run via the three regional testing hubs based in Antigua and Barbuda (to cover America),

<sup>25</sup> Further information, including presentations and key take-aways may be found at:

<https://www.unep.org/globalmercurypartnership/events/workshop/transitioning-mercury-free-lighting-asia-pacific-countries>

<sup>26</sup> <https://minamataconvention.org/en/events/phase-out-mercury-added-products-global-workshop-21-23-june>

<sup>27</sup> [www.unep.org/globalmercurypartnership/events/unep-event/eliminating-mercury-skin-lightening-products-global-kick-meeting](http://www.unep.org/globalmercurypartnership/events/unep-event/eliminating-mercury-skin-lightening-products-global-kick-meeting)

<sup>28</sup> [www.unep.org/globalmercurypartnership/our-work/mercury-products/eliminating-mercury-skin-lightening-products](http://www.unep.org/globalmercurypartnership/our-work/mercury-products/eliminating-mercury-skin-lightening-products)

<sup>29</sup> [www.unep.org/globalmercurypartnership/events/unep-event/phasing-down-use-dental-amalgam-global-kick-meeting](http://www.unep.org/globalmercurypartnership/events/unep-event/phasing-down-use-dental-amalgam-global-kick-meeting)

<sup>30</sup> [www.unep.org/globalmercurypartnership/our-work/mercury-products/phasing-down-the-use-of-dental-amalgam](http://www.unep.org/globalmercurypartnership/our-work/mercury-products/phasing-down-the-use-of-dental-amalgam)

<sup>31</sup> [www.zeromercury.org/mercury-added-skin-lightening-creams-campaign/](http://www.zeromercury.org/mercury-added-skin-lightening-creams-campaign/)



- the Philippines (to cover Asia) and Ivory Coast (to cover Africa). The results will form the basis of the upcoming ZMWG global report on Skin Lightening products. The ZMWG former global report *Skin lighteners still available online despite mercury findings* was published in March 2022<sup>32</sup>.
- A side event presenting the last global report (March 2022) among others, was organized in the framework of COP4.2 in cooperation with the government of Antigua and Barbuda on 10 March 2022.
  - A [new online database](http://www.zeromercury.org/cream-catalog/) providing information on the skin-lightening products tested so far by ZMWG and other sources is now available at [www.zeromercury.org/cream-catalog/](http://www.zeromercury.org/cream-catalog/)
  - In February 2023, a new and more focused report was published: *"Prime" Time to Stop Online Sales of Illegal High Mercury Skin-Lightening Products (Feb 2023)*<sup>33</sup>. 19 of 21 purchased creams were found to have mercury levels over 1 ppm. The levels of mercury detected by the lab in those 19 SLPs ranged from 1.5 ppm to 8,500 ppm. It once again indicates certain e-platforms continue to allow the toxic trade of SLPs laced with mercury.
  - On-the-ground projects are being carried out in the Philippines (since October 2022), Ivory Coast and Bangladesh (since January 2023) and in Nigeria and Kenya (see following point). The activities carried out under those projects aim to shed light on the issue of illegal trade of skin lightening creams; bring more evidence (e.g., mercury concentration in the air in beauty parlours); inform, raise awareness, and built capacity of governments and relevant stakeholders such as customs, dermatologists, etc.; identify the capacity-needs; engage cooperation with online platforms; etc.
  - **Capacity Building Related to Multilateral Environmental Agreements (MEA) in African, Caribbean and Pacific (ACP) Countries - Phase 3 (ACP-MEA's) project:** Under this project which began at the end of 2020, the EEB/ZMWG is focusing its work on the formulation of specific strategies in selected ACP countries for addressing the mercury-added product phase out provisions under Article 4 of the Minamata Convention. Activities are targeted mainly in the Caribbean and African regions. In the Caribbean, EEB/ZMWG is collaborating with CARICOM and BCRC Caribbean.
  - The EEB/ZMWG under the ACP MEAs III programme has established memorandum of understanding with the governments of Trinidad and Tobago (TTO), Antigua and Barbuda (ATG) and St. Kitts and Nevis (SKN), to carry out work towards phasing out mercury added products. In summary the activities, focus on the following areas: Developing a roadmap for phasing out mercury-added products; carrying out market studies of mercury-free alternatives, Assessing/focusing institutional capacity; Developing a strategy on mercury-free product procurement; Developing a pilot project on single stream product management and supporting the development of the National Implementation Plan
    - Currently the market study on mercury free alternatives is completed and approved for TTO. Data has been collected thereof for ATG and SKN, based on the developed questionnaires. The study is completed and under revision in both countries. Mercury free procurement policies have been developed on measuring devices, including dental amalgam and lamps following relevant surveys circulated. The Ministry of Health in TTO and SKN have already endorsed the related policies and several regional authorities are following. Roadmaps towards phasing out MAPs have been developed and National Action Plans are now drafted on the basis of those, in the three countries, currently under revision.
    - In Africa, activities have been ongoing with NGO partners from Kenya and Nigeria in supporting the implementation and enforcement of Article 4 provisions. An investigative report on production/trade of illegal mercury-added skin lightening cosmetics in Kenya has been finalized. Meetings were organized also in Uganda and the skin lightening cream report and work was presented to relevant authorities and at the Mining Occupational Safety and Health (MINOSH) International conference in September 2022.

<sup>32</sup> [eeb.org/wp-content/uploads/2022/03/ZMWG-Skin-2022-Report-Final.pdf](http://eeb.org/wp-content/uploads/2022/03/ZMWG-Skin-2022-Report-Final.pdf)

<sup>33</sup> [www.zeromercury.org/wp-content/uploads/2023/02/Prime-Time-Illegal-Mercury-Products-Report-2023.pdf](http://www.zeromercury.org/wp-content/uploads/2023/02/Prime-Time-Illegal-Mercury-Products-Report-2023.pdf)



- The EEB/ZMWG and the Caribbean Community (CARICOM) Secretariat have co-organised the Regional Conference Phasing out mercury added products in the Caribbean: Engagement, Steps and Tools towards implementing the Minamata Convention on Mercury. The conference gathered around 60 persons (in person and online) representing 14 countries in the Caribbean to showcase the efforts in phasing out mercury-added products in some of the countries in the region. The countries worked on their draft national action plans to phase out MAPs and follow up of those is ongoing.
- **Phase-Out of Fluorescent Lighting: The Clean Lighting Coalition** has assisted governments around the world in assessing their lighting markets and developing the technical, economic, and environmental justification for adopting regulations that phase-out fluorescent lighting. These activities which include the provision of locally relevant evidence on the benefits of a lighting transition, have resulted in the adoption of policies that phase-out fluorescent lamps from the market, shifting instead to cost-effective, mercury-free, energy-efficient LED lamps. Below are some of the new policies that have been adopted with the help of CLiC's technical support:
  - East African Community (EAC) – In July 2022, the seven African countries adopted a regionally harmonized quality and performance standard EAS 1064-1:2022, Lighting Products – Minimum Energy Performance Standard (MEPS) – Part 1 – Lamps on 1 July 2022 which establish minimum efficacy standards that phase-out fluorescent lamps.
  - South Africa – South Africa passed a new efficiency standard that will effectively transition its market from CFLs to LEDs.
  - Nigeria – Nigeria approved lighting efficiency standards only met by LEDs.
  - Asia-Pacific – The country of Bangladesh is developing its first lighting efficiency standards, with a goal of transitioning to all LEDs; China is preparing the development of world-leading LED efficiency standards targeting policy adoption by early 2025 and China would like to share these world-leading MEPS and collaborate with other countries on a roadmap to more efficient LED lighting.
  - Colorado (United States) – The state of Colorado passed legislation (HB23-1161) that phases out all fluorescent lighting (CFLs and LFLs) by January 1, 2026.
  - Oregon (United States) – The state of Oregon passed legislation (HB2351) that phases out all fluorescent lighting (CFLs and LFLs) by January 1, 2024.
  - Maine (United States) – The state of Maine passed legislation that phases out all fluorescent lighting (CFLs and LFLs) by January 1, 2026.
  - Hawaii (United States) – The state of Hawaii passed legislation (SB690 SD2) that phases out all fluorescent lighting (CFLs and LFLs) by January 1, 2024.
  - Rhode Island (United States) – The state of Rhode Island passed legislation (H.5550) through the House and the Senate phasing out all fluorescent lighting (CFLs and LFLs) by January 1, 2025.
  - California – The state of California passed legislation (AB 2208) through the House and the Senate phasing out all fluorescent lighting (CFLs and LFLs) by January 1, 2025.
  - Vermont (United States) – The state of Vermont passed legislation (H.500) through the House and the Senate phasing out all four-foot linear fluorescent lamps (LFLs) by January 1, 2024
- In addition to these, CLASP/ [Clean Lighting Coalition](#) has prepared information and resources to demonstrate the opportunity to transition to mercury-free lighting, including the benefits from a health, economic and technical perspective. Some of these resources prepared include the following:
  - [Technical & Economic Assessment of Mercury-Free Lighting](#): Global Overview & Regional Profiles, March 2022. A market study covering over 35 countries and thousands of lamps analysed demonstrating the technical and economic feasibility of switching from fluorescent lamps to LED in all these countries, spanning three regions: Africa, GRULAC, and Asia-Pacific.

- Farewell to Fluorescent Lighting: How a Phaseout Can Cut Mercury Pollution, Protect the Climate, and Save Money, March 2022. This study finds that drop-in LED replacement lamps are available for all common linear fluorescent tubes, pin-based compact fluorescent lamps, and specialty applications in the United States.
- Minimum Energy Performance Standards (MEPS) development support for Nigeria.
- Participating actively in the Minamata convention work related to lamps – In December 2022, the Clean Lighting Coalition (CLiC) submitted an information document to the Minamata Convention Secretariat containing technical information on mercury-free alternatives and the costs of delaying a linear fluorescent lamp phase-out.
- Conducting market research to support decision-making – CLiC published a Technical & Economic Assessment of Mercury-Free Lighting in 35 countries at COP4, demonstrating the economic and technical feasibility of phasing-out of fluorescent lighting. We are expanding our global market overview to 80 countries.
- Advocating for an early phase out of fluorescent lamps – CLiC, together with Climate Action Network and Kiko Network, submitted a letter to the G7 countries Ministers of Environment urging them to support the global phase-out of linear fluorescent lamps by 2025 to capture the associated health and environmental benefits.
- Tracking global progress – CLASP's quarterly bulletins outline recently passed national and regional policy developments around the world phasing out fluorescent lighting. The Pakistan government will prohibit manufacture, sale and import of CFLs in July 2023.

Finally, the European Environmental Bureau (EEB) contributed to the European Union decision to ban the putting on the EU market of toxic fluorescent lightbulbs. However, exports from the EU could continue. In cooperation with the Clean Lighting Coalition (CLiC), the EEB has been supporting relevant work at the Minamata Convention level (e.g., via the co-organisation of a relevant side event with CLiC).

- **Make Dental Amalgam History Campaign (World Alliance for Mercury-Free Dentistry):** The World Alliance for Mercury-Free Dentistry, its six regional environmental health centers, its NGO partners in dozens of nations, and its professional advisors in medicine, dentistry, law, and journalism work in every region with major successes as the Minamata Parties accelerate the phasing down and move toward phasing out dental amalgam. Existing projects include:
  - Assisting countries in implementing the worldwide game changer for dental amalgam, the Children's Amendment, unanimously adopted by the Parties at Minamata COP 4 in March 2022. It creates a new worldwide floor, aiming to end amalgam for deciduous teeth, for children under 15 and for pregnant and breastfeeding women, requiring each non-exempted Party to take affirmative steps toward that goal.
  - Workshops focused on implementing the Minamata Convention's Children's Amendment for West and Central Africa in Lomé, Togo (25-26 April), for East and Southern Africa in Lusaka, Zambia (28-29 April), for north Africa and southwest Asia in Cairo, Egypt (1-2 May) and for Nigeria and Ghana in Abuja, Nigeria (17 May).
  - Working with the World Health Organization to urge that implementation of the new Children's Amendment be incorporated in its updated draft Global Oral Health Action Plan.
  - Assisting the European Commission in stakeholder consultations on the revision of the EU Mercury Regulation to generally phase out dental amalgam.
  - Ending amalgam use in government programs, in military dentistry, in young women, and in other subpopulations as the pathway to full phaseout, a result that has now been reached by several countries.
  - To end supply of mercury fillings, shifting dental school education to 100% focus on mercury-free dentistry, and persuading dental product companies to stop selling amalgam—as both U.S. publicly-traded manufacturers did in the wake of the U.S. FDA Safety Communication.
  - To end demand for mercury fillings, enhance consumer and parent education to choose toxic-free safe dental materials for themselves and their families.

## 5) Mercury releases from coal combustion

a) The objective of the Partnership area is the continued minimization and elimination of mercury releases from coal combustion where possible. It also aims to provide technically sound information on cost-effective approaches for enhancing reductions of mercury emissions, particularly for developing countries and countries with economies in transition. No numerical targets are established for the Partnership area.

b) Key activities in the Partnership area include:

**The International Centre for Sustainable Carbon (ICSC, formerly IEACCC; Co-lead of the Partnership area) won a US State Department NOFO project to evaluate and reduce mercury emissions from the coal combustion sector in India and Indonesia<sup>34</sup>.**

For Indonesia, the project is comprised of three phases:

- **Phase 1:** Evaluation of mercury emissions from all coal-fired plants, current and impending, in order to rank the plants and identify three for closer investigation with respect to emission reduction strategies. This Phase is now complete, and the results have been published in a report, which is available on the ICSC website<sup>35</sup>. The three selected plants have agreed to collaborate with the project, along with the Ministry of Minerals and Energy Resources (MEMR) and the Ministry of Environment and Forestry (MOEF).
- **Phase 2:** The Partnership area and other interested parties have focused on the configuration of the three selected plants in order to collate a “catalogue” of potential mercury reduction techniques and technologies, especially options which can be replicated across the rest of the coal fleet. The progress of this work was presented at a workshop in Jakarta, in conjunction with BCRC-Asia, the Indonesian MOEF and MEMR on 11-13<sup>th</sup> July 2023<sup>36</sup> and coincided with the annual meeting of the Partnership area.
- **Phase 3:** Determination of potential funding and cost-leveraging options available to move mercury reduction policies and projects into practice in Indonesia. This may be the most challenging phase of the project since it is clear that most international funding agencies are moving away from funding fossil fuels. A report of funding options will be published by the ICSC in autumn 2023.

For India, the project focuses on capacity building and training on mercury emission monitoring and control through three pillars of work. For each of these pillars, the project has produced a desk report summarising the challenge and then facilitated four regional workshops within India to provide relevant training and capacity building.

- **Pillar 1** – Emissions monitoring at coal plants. The new emission limits for particulate matter (PM), SO<sub>2</sub>, NO<sub>x</sub> and mercury require associated means to ensure that plants comply with these limits. National guidelines have been issued, which require that continuous emission monitoring systems (CEM) be installed in such a way that remote calibration can confirm CEM performance and data tampering is avoided. This is, in theory, a good way to ensure that plant emissions can be policed, and appropriate actions can be taken swiftly to curb exceedances. However, in practice, the system faces several challenges in particular monitoring and reporting challenges. The project has published a report on CEM use in India and delivered training at regional workshops in Bhopal, Bhubaneswar, Visakhapatnam, and New Delhi in 2022<sup>37</sup>. A legacy programme, called CEMEG-India (CEM expert group – India) is being established in conjunction with the Council for Energy, Environment and Water (CEEW) in India. CEMEG-India will have its launch at the CEM India conference in Delhi in February 2024<sup>38</sup>. Finally, the project is about to publish a new guidance document – Best practice for CEMS in India – which is intended to inform the first

<sup>34</sup> Further information on this work is available from the website: [www.sustainable-carbon.org/outreach-programme/](http://www.sustainable-carbon.org/outreach-programme/)

<sup>35</sup> [www.sustainable-carbon.org/outreach-programme/](http://www.sustainable-carbon.org/outreach-programme/)

<sup>36</sup> [www.sustainable-carbon.org/workshop/strategies-for-targeted-emission-reductions/](http://www.sustainable-carbon.org/workshop/strategies-for-targeted-emission-reductions/)

<sup>37</sup> The report and training materials are available here: [www.sustainable-carbon.org/outreach-programme/continuous-emission-monitoring/](http://www.sustainable-carbon.org/outreach-programme/continuous-emission-monitoring/)

<sup>38</sup> [www.ilmexhibitions.com/cemindia/](http://www.ilmexhibitions.com/cemindia/)

standardization of CEM use in India. This document should be published in mid-2023 and will be available free from the ICSC website (see above).

- **Pillar 2** – Reducing emissions and improving ash management. Two new reports will be published in the autumn of 2023 focusing on emission reduction and ash management in India which includes mercury control strategies. The first of two workshops on these subjects were held in Raipur and Delhi in May and June 2023 and the final two events will take place in Nagpur and Chennai in July/August 2023<sup>39</sup>.
- **Pillar 3** – Flexibility in operating coal plants. This pillar builds upon a previous project between the USDOE, USAID, EPRI and NTPC in India which developed a toolkit to maximize the flexibility of coal-fired power plants. The current <sup>project</sup> has identified the potential for the flexibility toolkit in India and has designed a programme to deliver hands-on training. Workshops were delivered in 2022 in Hyderabad, New Delhi, Raipur, and Ahmedabad<sup>40</sup>.

As a legacy of this work, the project has launched the “Flex-India” initiative which will continue training and capacity building in this sector for at least 3 more years, with the assistance of EPRI (Electric Power Research Institute, USA) and under the auspices of the Confederation of Indian Industry (CII). The first annual Flex India conference is planned for September 2023 in Raipur.

**In April 2021, the GEF CEO approved a medium-scale UNEP project entitled: “Assessment of existing and future emissions reduction from the coal sector toward the implementation of the Minamata and Stockholm Conventions”** to be executed by the Partnership area leads, Macquarie University and the ICSC, with expertise and input from the Partnership area. Uniquely this new project will address the implementation of the Minamata and Stockholm Conventions, and also be aligned with the commitments countries make under the UN Framework Convention on Climate Change (UNFCCC). This project commenced in October 2021, and consists of two components:

- Component 1: A comprehensive coal sectoral analysis, which will review scientific data on mercury/POPs/GHGs from the coal sector and estimate future emissions in the light of the UNFCCC Paris Agreement commitments and targets.
- Component 2: The synthesis of strategies, including policy guidance, for the coal sector’s emissions reduction contribution to the Stockholm and Minamata Conventions.

The project will engage extensively with international stakeholders, including UNEP, the Partnership, the International Centre for Sustainable Carbon, Parties and Secretariats to the Stockholm and Minamata Conventions, and relevant civil society groups. A project initiation workshop was held in March 2022.

The *first workshop session* included background on the GEF project, including information on the global use of coal in the energy mix, listing commitments made by countries under the UN Conventions, and challenges faced by countries to mitigate emissions from their coal sector. The two major project components and outcomes were discussed along with the project workplan that described the activities for reaching these outcomes throughout the project.

Following the progress made since the discussions during the project inception workshop, an inventory of country-specific reports and peer-reviewed journal publications is ongoing, including preliminary country-specific reports for China, Indonesia, and Vietnam. Detailed discussions with key stakeholder groups from each country setting is progressing to tailor the country-specific reports and to establish the sharing of information. Interested parties are welcome to get in contact with the project team to expand on stakeholder engagement during the project timeframe. The project progress results and outcomes were presented at the virtual ICMGP 2022 conference in July 2022.

The following outputs for the project are in development and will be reported on throughout the remainder of the project reporting period:

- a. Dissemination of scientific data on mercury, persistent organic pollutants, and greenhouse gas emissions from coal-fired power plants to relevant stakeholders.

<sup>39</sup> More information, training materials and the reports (once published) are available here: [www.sustainable-carbon.org/outreach-programme/improving-environmental-performance/](http://www.sustainable-carbon.org/outreach-programme/improving-environmental-performance/)

<sup>40</sup> More information and all materials can be found here: [www.sustainable-carbon.org/outreach-programme/flexibility/](http://www.sustainable-carbon.org/outreach-programme/flexibility/).

- b. Emissions reduction scenarios from coal-fired power plants based on country-specific socio-economic challenges and energy development plans.
- c. Synthesis of results from completed and/or ongoing coal-fired power plant projects on emissions reduction potential.
- d. Generation of selection criteria for future projects based on the highest impact potential of available best available technologies and best environmental practices (BAT/BEP) in selected countries.
- e. Provision of policy guidance for Parties to the UN Conventions on decision-making processes towards emission controls in the coal sector.
- f. Production of a detailed report and communication material on the project findings and disseminated through a dedicated platform.

Recent activities and progress on the GEF project are as follows.

#### **Component 1: Comprehensive coal sectoral analysis**

- The project team contributed to a capacity building workshop that was held in Indonesia in January 2023. In Jakarta, the GEF/UNEP project on future mercury reduction assessment was presented and discussed with a wide range of stakeholders representing the International Centre for Sustainable Carbon, the Basel & Stockholm Conventions Regional Centre for Southeast Asia (BSCRC-SEA), US Department of State (USDOS), the Electric Power Research Institute (EPRI), Atlantic Energy Associates (AEA), and others.
- The project team conducted a stakeholder survey during the workshop to gather feedback on the challenges identified by participants regarding reducing mercury emissions from the Indonesian coal fleet, as well as their perspectives on future interventions needed to mitigate mercury emissions in the coal sector.
- The following research reports and manuscripts have been in preparation in 2023:
  - A draft report on the formation and fate of persistent organic pollutants (POPs, mainly dioxins, furans, and PCBs) in the coal sector, emphasizing the reduction potential and mitigation actions through co-benefit if plants are equipped with air pollution control devices (APCDs) for PM, SO<sub>x</sub>, and NO<sub>x</sub> control.
  - Draft manuscript #1 on the global perspective of coal-fired power plants and related CO<sub>2</sub> and mercury emissions from the sector up to 2050.
  - Draft manuscript #2 on the profiling of the three countries, namely China, India and South Africa that had the highest recorded mercury emissions from the coal sector as reported in GMA 2018.
  - Draft manuscript #3 on the fate of coal-fired power plants in Southeast Asia up to 2050, with relation to the Asian Development Bank's Energy Transition Mechanism and Just Energy Transition Partnerships, and the consequences of these mechanisms for future mercury emissions from the coal sector.

#### **Component 2: Strategy for the coal sector's emissions reduction contribution to Stockholm and Minamata Conventions. The following research reports have been in preparation during Q1 2023:**

- A draft report on the gender-related aspects in the focus countries for the coal sector, including considerations of inequality and health benefits that arise from replacement of coal-fired power generation with renewables as a consequence of reductions in pollutants, including mercury and POPs.

**Partner involvement in the GEF project:** The project team contributed to the workshop event organized by the International Centre for Sustainable Carbon and the Basel & Stockholm Conventions Regional Centre for Southeast Asia (BSCRC-SEA) in Indonesia in January 2023. The meeting was found extremely informative, and the technical discussions helped to understand how the country's energy development plans will impact emissions forecasting in the coal sector; not just for Indonesia, but in fact all our focus countries in the project. A presentation was also given in April 2023 to the Mercury Group of the Inter-Organization Programme for the Sound Management of Chemicals (IOMC). Participating organisations in the IOMC Mercury Group are ILO, UNDP, UNEP, UNIDO, UNITAR, WHO, World Bank, and the OECD.

## 6) Mercury waste management

a) The objective of the Partnership area is 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, and local levels.

b) Key activities under this Partnership area include:

- **Partnership area meetings:** The mercury waste management area (WMA) held two meetings between March 2022 to May 2023. The primary objectives of these area meetings were to review ongoing activities by the Partnership area and consider future ones; identify technologies and services on mercury waste management that partners can provide and challenges on mercury waste management that countries have faced to bridge mercury waste management expertise and need for assistance; explore opportunities for collaborative works within and beyond the Partnership area; based on the WMA activity plan for 2022-2024<sup>41</sup> and workplans of the area's Working Groups.
- **Catalogue of Technologies and Services on Mercury Waste Management:** The Catalogue has been developed to disseminate information on technologies, products and services of partners related to mercury waste management. It has been updated annually and the latest version of 2023 is available on the Partnership website<sup>42</sup>.
- **Working Groups to promote the management of mercury wastes:** At its July 2021 meeting, the Partnership area agreed to establish three working groups (WG) focusing on "development and/or refinement of resources", "capacity-building and awareness-raising" and "solution-exchange" under the WMA. Accordingly, members of each working group nominated leader(s) and developed draft work plans for 2022-2024 in light of the WMA Activity Plan.
- **Working Group 1: Development and/or refinement of resources:** The WG1 has extensively worked on the development of factsheets for the environmentally sound management of mercury wastes in collaboration with the International Solid Waste Association (ISWA). The objective of the factsheets is to provide practical information on how to handle specific mercury waste streams while supplementing the technical guidelines for the environmentally sound management of mercury wastes adopted under the Basel Convention, particularly for practitioners in developing countries. The WG1 has almost finalized the first factsheet on the management of non-electronic measuring devices containing mercury.
- **Working Group 2: Awareness-raising and capacity-building:** The WG2 has contributed many online/face-to-face events and information-session organized together with the Partnership and other organizations to provide technical resources and share experiences, best practices and lessons learnt on mercury waste management, at the following occasions:
  - Side event at the Conference of Parties to the Basel, Rotterdam and Stockholm Convention in June 2022 entitled "Mercury Wastes: latest developments, tools and practices for their environmentally sound management";
  - Session at the World ISWA Congress 2022 in September 2022 entitled "Turning a mercury policy into practices";
  - Minamata online session organized by the Secretariat of the Minamata Convention in October 2022 entitled "Technical guidelines on mercury waste management";
  - Webinar organized with the Partnership area on mercury cell chlor-alkali production on "the sound management of and elimination of mercury and mercury wastes in the Chlor-Alkali sector" in February 2023; and
  - Side event at the Conference of Parties to the Basel, Rotterdam and Stockholm Convention in June 2023 entitled "Mercury waste management".
- **Working Group 3: Solution exchange** - The objective of the WG3 is to create and operationalize an online platform where stakeholders in need call for support to address

<sup>41</sup> The Activity Plan can be found at : [wedocs.unep.org/bitstream/handle/20.500.11822/38386/WMAplan\\_22-24.pdf?sequence=3&isAllowed=y](https://wedocs.unep.org/bitstream/handle/20.500.11822/38386/WMAplan_22-24.pdf?sequence=3&isAllowed=y)

<sup>42</sup> [web.unep.org/globalmercurypartnership/catalogue-technologies-and-services-mercury-waste-management-2021-version](https://web.unep.org/globalmercurypartnership/catalogue-technologies-and-services-mercury-waste-management-2021-version)



specific challenges on mercury waste management and interested stakeholders provide corresponding support in pursuit of matchmaking between them. The WG3 has developed a leaflet to explain what the solution exchange is about and the draft operational manual which outlines procedures and expected works for different stakeholders.

c) Planned future activities for 2023 – 2024 include (but are not limited to):

- Development of factsheets on the environmentally sound management of mercury wastes in collaboration with ISWA: The WG1 has almost finalized the first factsheet on the management of non-electronic measuring devices containing mercury. The planned activity is to coordinate with relevant organizations for its finalization and decide which waste stream the WG1 should focus on for the next factsheet.
- Mapping or developing a list of mercury waste treatment and relevant facilities around the world.
- Organization of a joint webinar, if possible, together with the mercury supply and trade area on the handling and disposal of excess mercury.
- Establishment and operationalization of a solution exchange platform including its pilot phase related to challenges on mercury waste management.

## 7) Mercury supply and storage

a) The overall objective of the Partnership area is to minimize and where feasible, eliminate mercury supply considering a hierarchy of sources, and retire mercury from the market to environmentally sound management. In practice, it aims to:

- Eliminate the production and export of mercury from relevant mercury supply sources;
- Determine how much mercury will become available from primary mining, decommissioning of mercury chlor-alkali plants; and the quantity of by-product mercury generated from non-ferrous metal processing, gold mining as well as oil and gas production; and
- Collect and disseminate information on options and technologies for storage or final disposal of excess mercury supply from the different sources.

b) Key activities in the Partnership area include:

- The **Study report on “Mercury from Oil and Gas”**, developed by the International Society of Doctors for the Environment (ISDE) is now available on the Partnership [platform](#). It identifies possible sources and releases of mercury derived from the extraction of oil and gas, as well as its fate. The report also discusses the amount of mercury from this sector that could enter the informal market.
- As a next step to the study report on mercury from the oil and gas sector, the area of work, together with the Partnership and the mercury waste management area held an online session to share experiences and best practices on the management of mercury along the oil and gas value chains on 18 July 2023. The event provided an opportunity to disseminate existing best practices for a sound management of mercury emissions, releases, and wastes, as well as benefit from countries and stakeholders’ knowledge. It also allowed for a discussion on possible challenges and next steps in terms of the implementation of identified best practices. Further information on the meeting is accessible on the dedicated page<sup>43</sup>.
- **GEF-7 Proposal: “Accelerate Minamata Convention compliance through improved understanding and control of mercury trade in Latin America”**. The leads of the Partnership area provided technical contributions and comments to UNEP in the development of a project proposal dedicated to understanding and reducing the flow of mercury in the Latin American and Caribbean region.
- **Participation in meetings organized by other Partnership areas**. The Partnership area has attended a number of other area meetings to which it provided input and information.
- **Technical Protocol for Managing Contaminated Tailings with Mercury in Colombia**. Pure Earth Colombia has been working, together with the principal governmental agencies of

<sup>43</sup> <https://www.unep.org/globalmercurypartnership/events/unep-event/managing-mercury-along-oil-and-gas-value-chains-sharing-experience-and-best>



the country, on a protocol that addresses important aspects of the handling and storage of mercury.

- **Development of Capacity for the Substitution and the Environmentally Sound Management (ESM) of Mercury-containing Medical Measuring Devices.** Implemented by the Asian Institute of Technology in the ASEAN Member States, this project aims at preventing the adverse impacts of mercury contained in used thermometers and sphygmomanometers.
- **The Basel Convention Regional Centre for Training and Technology Transfer for the Caribbean (BCRC-Caribbean)** has been involved in planned activities through the following projects:
  - GEF 10472: Implementing Sustainable Low and Non-chemical Development in Small Island Developing States (ISLANDS) Child Project. Pending approval, tentative activities include the assessment of the storage mechanisms for mercury previously used at chlor-alkali plants in Cuba and determining whether the mechanisms are adequate to prevent environmental contamination in The Bahamas, Cuba, and Dominica.
  - GEF 10153: Development of National Action Plan for Artisanal and Small-scale Gold Mining in the Co-operative Republic of Guyana (Guyana NAP). Activities included an assessment to identify the sources and supply of mercury used in the national ASGM sector.

c) Planned future activities include:

- Organize the meeting of the Partnership area in 2023, as an opportunity to among others welcome the new co-lead and members of the Partnership area, share updates on recent, ongoing, and future activities, and discuss the Partnership area business plan.
- Initiate a collaboration with the Partnership area of mercury waste management to further consider the issue of sound management and fluxes of the mercury waste generated in oil and gas and in non-ferrous metals smelting sectors.
- Enhance exchanges and joint actions with industry for the environmentally sound management and storage of mercury in the sectors of chlor-alkali, non-ferrous and gas production.
- Collaborate with relevant stakeholders in developing guidance to ensure the mercury requisitioned by local authorities is safely disposed of and remains properly stored.
- Promote the replication of successful workshops.
- Promote transparency and traceability throughout the whole life cycle of mercury, including supply source, trade, and export, to address potential illegal sources of mercury supply.

## 8) **Mercury releases from the cement industry**

a) The objectives of the Partnership area are to:

- Establish sectoral mercury inventories and baseline scenarios for the industry.
- Encourage the use of most appropriate techniques to reduce or minimize mercury releases into the environment.
- Increase the awareness of the cement industry to mercury as a pollutant through increased outreach efforts.

b) Key activities of the Partnership area:

- The Partnership area held its annual meeting on 13 February 2023 in an online setting. The meeting welcomed new partners and provided an opportunity to present recent and upcoming activities. Partners also exchanged on the revision of the Partnership area business plan, as well as possible priorities for future work.
- Earlier, in June 2022, the area of work organized an online technical information-sharing session to share existing knowledge, guidance, and best practices to control and reduce emissions of mercury from the cement sector. Participants were also able to formulate questions, comments, and recommendations to the expert. Meeting resources accessible on the [event page](#) provide further details.

c) Planned future activities include the followings.

- The Partnership area intends to support the development of database for emissions inventory. Because of the wide variation in mercury emissions worldwide, this work would help disseminate information on monitoring techniques; support evaluation of emissions and the effectiveness of emission reduction approaches; establish an accurate plant information database; and encourage inclusion of cement manufacturing in country mercury inventories.
  - The Partnership area also aims to develop outreach materials and collaborate with complementary programmes to disseminate information about mercury emissions. Information will be shared to promote understanding of techniques for mercury management and control.
  - Other aspects would be to support the development of Partnership area-related policies and regulatory frameworks and the facilitation of exchange of knowledge on new and emerging technologies.
-