

Expert consultations on “Mercury from non-ferrous metals mining and smelting” under the UNEP Global Mercury Partnership - Kick-off meeting (29 April 2020)

- Summary of main discussion points -

Background:

At its tenth meeting (Geneva, 23 November 2019), the Advisory Group of the UNEP Global Mercury Partnership (PAG) requested the Secretariat of the Partnership to convene targeted discussions with interested partners and stakeholders on the issue of mercury from non-ferrous metals mining and smelting, which it had identified as cross-cutting, i.e. where the collaboration of Partnership areas of work would facilitate the development of needed information, interventions and projects¹.

In response to this request, expert consultations were launched on 29 April 2020, with the overall objective to identify potential useful contributions from the Partnership within the context of its mission and its existing areas of work. The meeting was attended by approximately 55 participants, both partners and non-partners, with representatives from Governments, intergovernmental and non-governmental organizations, academia, scientific community and private sector.

Participants were invited to attend in their expert capacity, to share views and ideas, and any useful background material². The list of participants is annexed.

Summary points from the discussions:

(1) Needs and challenges associated with the management of mercury from non-ferrous metals mining and smelting

Amongst others, the following aspects were raised during the discussions:

- Non-ferrous metals mining and smelting was estimated by the UNEP Global Mercury Assessment 2018³ to be the third largest source of mercury emissions to air, and the largest source of mercury releases to water after artisanal and small-scale gold mining⁴. The report noted however that estimates from non-ferrous metals production had relatively large uncertainties. Also, no quantitative data was available for releases to land as well as for non-ferrous metals other than aluminum, copper, lead, industrial gold, mercury and zinc;
- By-product mercury recovery from non-ferrous mining operations is also assumed to be an important source of global mercury supply, estimated at about 15% in the UNEP Global Mercury Supply, Trade and Demand report 2017⁵;

¹ <https://web.unep.org/globalmercurypartnership/partnership-advisory-group-meeting-10>

² Background material shared by participants in the meeting may be found at:
<https://owncloud.unog.ch/index.php/s/ioEEw8SL42GY5E>

³ <https://web.unep.org/globalmercurypartnership/global-mercury-assessment-2018>

⁴ With respect to emissions of mercury, the assessment showed that 326 tonnes of mercury originated from the production of non-ferrous metals (aluminum, copper, large scale gold, lead, mercury, and zinc), representing about 15% of total emissions. Total mercury emissions were estimated at 140 tonnes for zinc, 84.5 tonnes for large scale gold, 50 tonnes for copper and 30 tonnes for lead. The report noted that with an estimated 240 tonnes per year, the sector was responsible for roughly 40% of total releases to water.

⁵ <https://web.unep.org/globalmercurypartnership/global-mercury-supply-trade-and-demand>

- A large number of countries are concerned about the fate of mercury and other impurities released during the mining and smelting of copper, lead and zinc, which belong to the top 5 largest internationally traded commodities;
- Potential needs were expressed with respect to (listing does not reflect any hierarchical order):
 - Further dissemination of information and awareness-raising on existing best practices and case studies on the issue of mercury in the sector, mercury removal systems, including from off-gas cleaning systems in smelters, risks mitigation measures as well as options for environmentally sound interim storage and disposal of mercury;
 - Further information gathering on certain topics, including:
 - the quantities of waste generated from non-ferrous metals mining and smelting, including the amount of mercury found in the sulphuric acid;
 - standards for the levels of mercury in sulphuric acid established at national levels;
 - the magnitude and latest trends regarding the sector as a source of mercury supply;
 - the pervasiveness of mercury from non-ferrous metals other than lead, zinc, copper;
 - the impact of deep-sea mining on mercury releases;
 - mercury mass balance for smelting plants;
 - Enhanced information on the mercury content in ores feeding the smelting process, which would support the selection of appropriate mercury management options onsite as well as refining emission and release factors;
 - A traceability mechanism on the transboundary movement of ores and concentrates that could assess the volumes of mercury present in these materials as well as an overview of the different limit values established by countries around the world.

(2) Existing relevant work and guidance on best practices

Amongst others, participants shared information with respect to the following:

- Available guidance, tools and resource:
 - The guidance document on Best Available Techniques and Best Environmental Practices adopted under the Minamata Convention⁶, which addresses the control options for mercury from smelting and roasting processes used in the production of non-ferrous metals (lead, zinc, copper and industrial gold);
 - The Basel Convention technical guidelines for the environmentally sound management of wastes consisting of elemental mercury and wastes containing or contaminated with mercury⁷, which is currently being updated;
 - The Minamata Convention guidelines on the environmentally sound interim storage of mercury other than waste mercury⁸;
 - The “Catalogue of Technologies and Services on Mercury Waste Management - 2020 version” compiled by the leads of the Partnership area on mercury waste management, which highlights services provided by some partners of relevance to the sector⁹.

- Ongoing relevant work, including:

⁶ http://mercuryconvention.org/Portals/11/documents/publications/BAT_BEP_E_interractif.pdf

⁷ <http://www.basel.int/Implementation/MercuryWastes/TechnicalGuidelines/tabid/5159/Default.aspx>

⁸ http://mercuryconvention.org/Portals/11/documents/forms-guidance/English/2_5_e_Rev1_storage.pdf

⁹ <https://web.unep.org/globalmercurypartnership/catalogue-technologies-and-services-mercury-waste-management-2020-version>

- Intersessional work called for by the Conference of the Parties to the Minamata Convention in relation to mercury releases and mercury waste, which includes consideration of certain aspects of mercury from non-ferrous metals mining and smelting;
- The development of a study for the German Environment Agency with mass balances for the national copper, lead, zinc (primary and secondary) industries, among others, which is expected to be published during the summer 2020;
- The development by the NGO Artisanal Gold Council of guidance on the interim storage of mercury confiscated or produced as a by-product in Peru, to be finalized during the third quarter of 2020;
- A compilation of information on mercury removal systems from off gas cleaning systems in smelters: http://www.sulphuric-acid.com/techmanual/GasCleaning/gcl_hg.htm.

(3) Possible contribution of the Partnership to support the promotion of best practices and support moving the issue forward

The discussions highlighted the cross-cutting nature of the topic, which could benefit from the complementarity and cooperation of several Partnership areas, including on “mercury air transport and fate research”, “mercury supply and storage” and “mercury waste management”.

Several avenues were suggested as possible contributions of the Partnership, amongst which supporting an enhanced overview of mercury from non-ferrous metals mining and smelting, including with respect to the sector’s importance as a source of mercury supply; facilitating information and experience sharing on the topic, including on control measures, best practices for its environmentally sound management, and; the facilitation of transboundary movement of mercury waste for disposal.

Next steps:

The type of output that could emerge from the consultations process will be explored in consultation with the PAG co-chairs as well as interested Partnership area leads and partners, and other experts.

Annex – List of participants

GOVERNMENTS	
Jamaica, National Environment and Planning Agency	Chadrick Clarke
Mexico, Ministry of Environment and Natural Resources	María Teresa López Rocha
Spain, Ministry for the Ecological Transition	Ana García González
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INTERGOVERNMENTAL ORGANIZATIONS	
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International Metals Study Groups	Jianbin Meng
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NON-GOVERNMENTAL ORGANIZATIONS	
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Artisanal Gold Council	Richard Gutierrez
Association Institute of Total Environment	Samuel Tetsopgang
Development Indian Ocean Network	Hemsing Hurrynag
Environment Health and Disaster Management Initiative	Patrick Kamanda
Hazardous Waste Europe	Alain Heidelberger
International Council on Mining and Metals	Claudine Albersammer
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Batrec	Philippe Zanettin
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