

# A snapshot of recent UNEP chemicals related scientific reports to inform action

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Workshop "From science to action, for the implementation of the BRS Conventions and guidance for the environmentally sound management of industrial chemicals"

12–14 April 2023, Buenos Aires

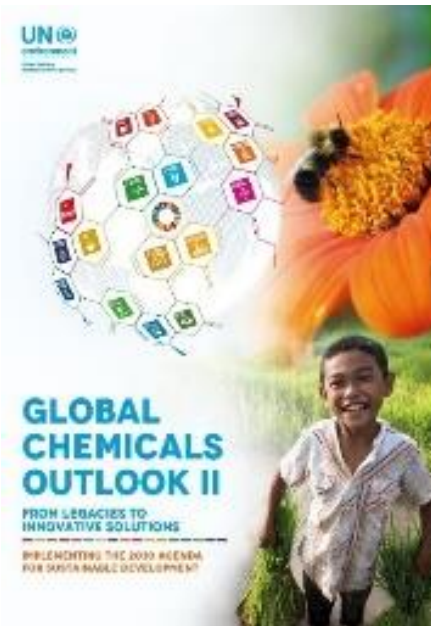
# The Global Chemicals Outlook II (GCO-II)

- First GCO published in 2013, highlighting chemical intensification
- GCO-II launched in 2019 at various meetings and conferences
- Informs UNEA and intersessional process considering the Strategic Approach and the sound management of chemicals and waste beyond 2020

## Available products:

- *Full GCO-II*
- *Synthesis report*
- *Summary for policymakers*

[Global Chemicals Outlook | UNEP - UN Environment Programme](#)



## REPORT Global Chemicals Outlook II: From Legacies to Innovative Solutions



The **Global Chemicals Outlook II – From Legacies to Innovative Solutions: Implementing the 2030 Agenda for Sustainable Development**, mandated by the UN Environment Assembly in 2016, seeks to alert policymakers and other stakeholders to the critical role of the sound management of chemicals and waste in sustainable development. It takes stock of global trends as well as progress made and gaps in achieving the global goal to minimize the adverse impacts from chemicals and waste by 2020.

The full **Global Chemicals Outlook II** is launched electronically on 29 April 2019 in Geneva, Switzerland, at a side event at the meetings of the conferences of the Parties to the Basel, Rotterdam and Stockholm conventions.



The **Synthesis Report** was launched on 11 March 2019 at the fourth session of the UN Environment Assembly. A shorter **Summary for Policymakers** was tabled as a working

Download  
**Global Chemicals Outlook II: From Legacies to Innovative Solutions**

- Global Chemicals Outlook II (full report)
- Global Chemicals Outlook II - Introduction and Key Messages
- Global Chemicals Outlook II - Part I
- Global Chemicals Outlook II - Part II
- Global Chemicals Outlook II - Part III
- Global Chemicals Outlook II - Part IV
- Global Chemicals Outlook II - Part V
- Global Chemicals Outlook II - Index
- Synthesis Report
- Summary for Policymakers - عربي
- Summary for Policymakers - 中文
- Summary for Policymakers - English










# Overall message of the GCO-II

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- While many chemicals are important for sustainable development, trends are a cause for major concerns.
- The global goal to minimize adverse impacts of chemicals and waste will not be achieved by 2020
- Solutions exist, but more ambitious worldwide action by all stakeholders is urgently required
- Business-as-usual is not an option



# Key Findings

|   |   |   |   |
|---|---|---|---|
|    | 1) Industry will increase                     |    | 6) Capacity gaps still priority. Resources and needs don't match. |
|    | 2) Growth will create risks and opportunities |    | 7) Sharing knowledge more widely can save resources               |
|    | 3) Pollutants released are ubiquitous         |    | 8) Companies are getting involved                                 |
|   | 4) Tens of billions in benefits of action     |   | 9) Consumer demand and sus-chem driving change                    |
|  | 5) Progress on international treaties uneven  |  | 10) Fill knowledge gaps by harmonizing                            |

# Options for action

|   |   |   |                                       |
|---|---|---|---------------------------------------|
|    | 1) Develop effective management systems |    | 6) Strengthen corporate governance    |
|    | 2) Mobilize resources                   |    | 7) Educate and innovate               |
|    | 3) Assess and communicate hazards       |    | 8) Foster transparency                |
|   | 4) Assess and manage risks              |   | 9) Bring knowledge to decision-makers |
|  | 5) Use life cycle approaches            |  | 10) Enhance global commitment         |

# Addressing Environmental Dimensions of Antimicrobial Resistance – Reducing contaminants and other stressors

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# AMR: a 'silent pandemic' in the making

- **1.27 million human deaths per year** attributable to drug-resistant infections
- **~ 5 million deaths** associated with bacterial antimicrobial resistance
- By 2050, **~ 10M deaths per year**
- Global **GDP shortfall of US\$3.4 trillion annually**, next decade, if AMR left unchecked.

**Environmental factors' role**  
Rationale for a **spotlight** report



# Bracing for Superbugs: Strengthening environmental action in the One Health response to antimicrobial resistance



## Bracing for Superbugs

Strengthening environmental action  
in the 'One Health' response to  
antimicrobial resistance







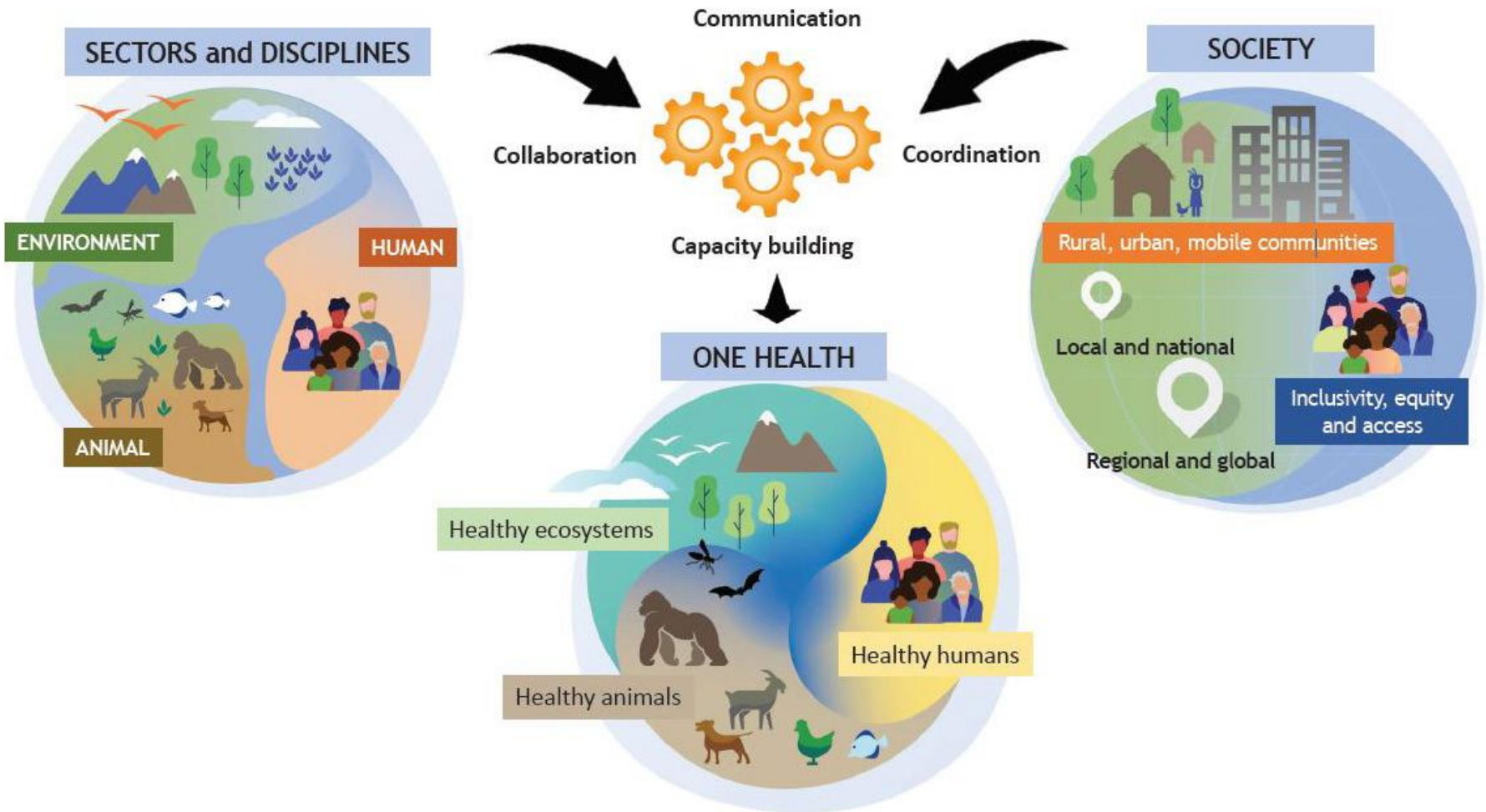
## What are the concerns related to the environmental dimensions of AMR

The environment plays a key role in development, transmission and spread of AMR

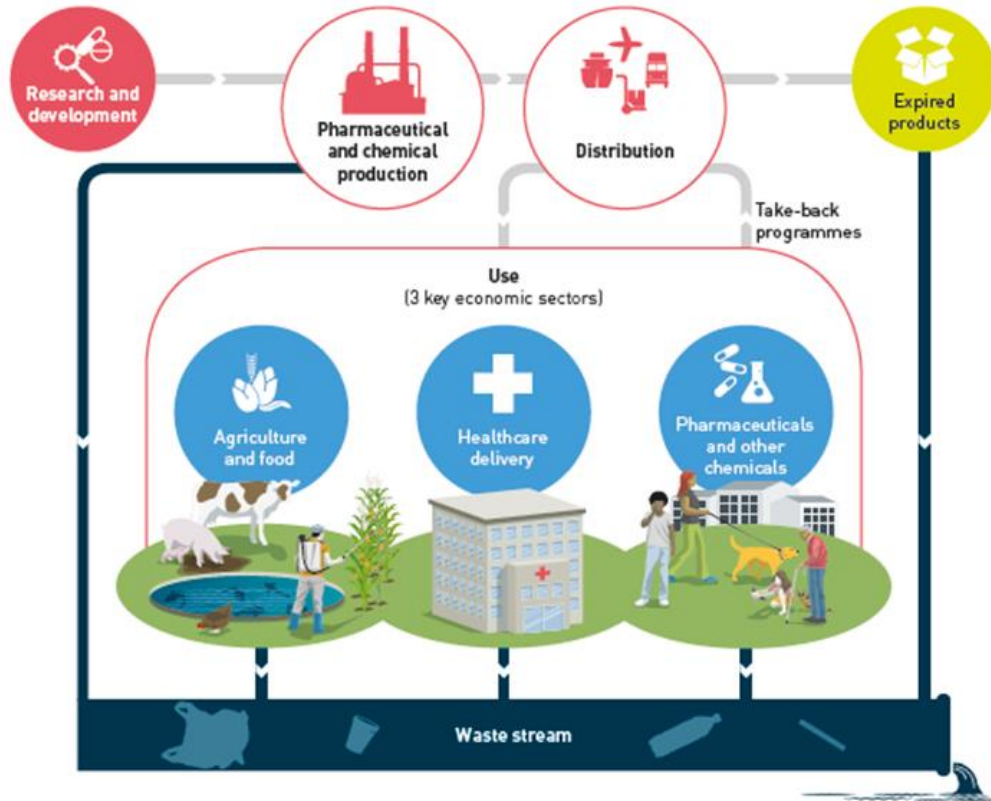
**Antimicrobial resistance is closely linked to the triple planetary crisis of climate change, biodiversity loss, and pollution, driven by human activity, unsustainable consumption and production patterns.**



# One Health response to AMR



# Managing sectors and their value chains that potentiate AMR in the environment



**Three economic sectors and their value chains are key potential drivers of AMR development and spread:**

- Pharmaceuticals and other chemical manufacturing
- Agriculture and food production
- Healthcare systems

**Also municipal systems**

# Priority actions



- Enhance environmental **planning** and **governance**
- **Legal and regulatory frameworks**
  - International standards for effluent discharge
  - National regulatory changes
  - Industry and private sector engagement
- Identify and target priority **AMR relevant pollutants & address key sectors – PREVENTION**
- Improve **reporting, surveillance and monitoring**
- Prioritize **financing, innovation and capacity development**

# Insights on Ways to Minimize Environmental and Health Impacts of Pesticides and Fertilizers

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# Background of the UNEP report on pesticides and fertilizers

## Environmental and health impacts of pesticides and fertilizers and ways of minimizing them

***Underlining*** the importance for human and environmental health, including biodiversity, of avoiding and minimizing the risks posed by harmful chemicals

In collaboration with WHO, FAO and other organizations

... Also encouraged research institutions to **widely share** the results of **epidemiological and other relevant studies**, including environmental monitoring and assessment

# UNEP's Summary for Policymakers on pesticides and fertilizers



Diverse drivers, actors and policies are shaping the use of pesticides and fertilizers.



Current and projected patterns of pesticide and fertilizer use are not sustainable.



Minimizing adverse impacts of pesticides and fertilizers: business-as-usual is not an option.



Ambitious collaborative action by all stakeholders is needed.



# UNEP's Synthesis report on pesticides and fertilizers and its structure.



## INTRODUCTION AND CONTEXT

- ✓ Key findings and options for action
- ✓ Global drivers, actors and policies affecting pesticides and fertilizer use

## PART III - PESTICIDES/FERTILIZERS

- ✓ Status and trends
- ✓ The regulatory and policy environment
- ✓ Environmental and health effects
- ✓ Impacts of use
- ✓ Risk reduction and risk management

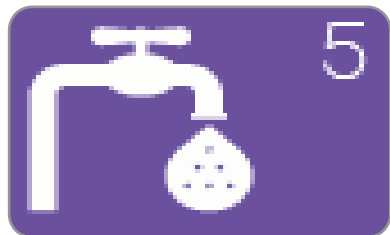
## OPPORTUNITIES AND WAYS FORWARD

- ✓ Transformative actions to minimize the adverse impacts of pesticides and fertilizers

## A few key highlights



Pesticides and their degraded products are ubiquitous in the environment, including soils and surface and groundwater. They are frequently detected at levels exceeding legal or environmental standards.



Adverse impacts of fertilizers are mainly caused by their excessive and inefficient use.



Knowledge gaps still exist that hamper a full understanding of some adverse impacts of pesticides and fertilizers, including effectiveness of some control measures.

# Options for priority action

Priority actions to strengthen pesticide management

Priority actions to strengthen fertilizer and nutrient management

Priority transformative actions to strengthen pesticide and fertilizer management

- Incentivize healthy and sustainable consumer choices and consumption.
- Fundamentally change crop management and adopt ecosystem-based approaches.
- Use economic instruments to create a level playing field for greener products and approaches.
- Promote the use of direct finance to encourage sustainable agriculture.
- Adopt integrated and life cycle approaches for sound pesticide and fertilizer management.
- Strengthen standards and adopt corporate policies for sustainable supply chain management.

# Ambitious collaborative action by all stakeholders is needed



- Advancing the sustainability of pesticides and fertilizers offers many benefits, environmental, social and economic.
- Stakeholders in the value chain and agri-food system are contributing to minimize adverse effects of pesticides and fertilizers.
- Collaborative actions, specific targets and roadmaps can help scale up efforts.

Link to the Summary for Policy Makers and Synthesis Report:

<https://www.unep.org/resources/report/environmental-and-health-impacts-pesticides-and-fertilizers-and-ways-minimizing>

# Chemicals in plastic

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# Technical Report on Chemicals in Plastics

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- Developed by UNEP in cooperation with the BRS Secretariat with lead authors from the International Panel on Chemical Pollution
- Supported by consultative process and input from experts
- Full report and Key Findings Summary currently being finalized, for INC2



# Technical Report on Chemicals in Plastics

## - Main objectives

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- Provide scientific evidence, based on extensive literature review on the chemicals-related issues of the plastic pollution crisis
- Close some of the knowledge gaps related to chemicals in plastics, with a particular focus on additives, their environmental fate and related human and environmental impacts
- Explore options to protect human health and the environment and support a “toxic-free” circular economy



# Technical Report on Chemicals in Plastics

## - Latest draft structure

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- |   |
|---|
| 1. Introduction   |
| 2. Overview of chemicals in plastics and plastic use sectors of concern   |
| 3. Ecosystem and human exposures to chemicals in plastics                 |
| 4. Gaps and improvements in hazard, exposure and risk assessments         |
| 5. Addressing chemicals of concern along the plastics life cycle          |
| 6. Substituting chemicals and plastics with more sustainable alternatives |
| 7. Managing plastic waste in a circular economy                           |
| Annex 1 - Compilation of chemicals in plastics from recent studies        |



# Technical Report on Chemicals in Plastics

## - Some findings from latest draft

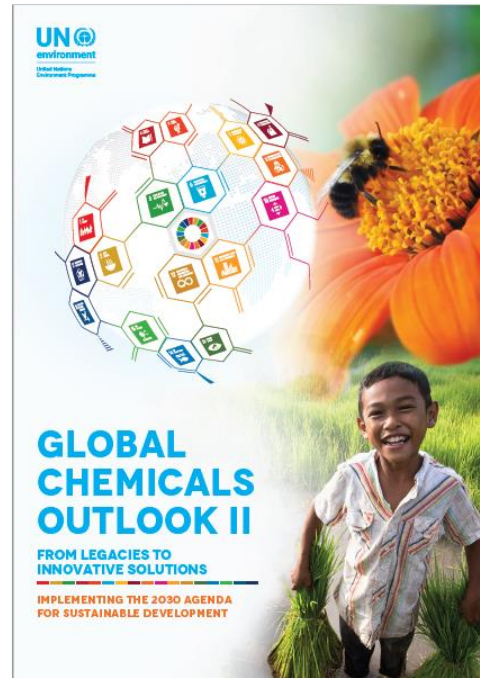
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- > 10'000 chemicals associated with plastics and plastic manufacturing, amongst which over 1/4th of potential concern to our health and our environment
- Chemicals of concern found in plastics across a wide range of sectors and products value chains, and can be released from plastic along its entire life cycle
- Existing evidence calls for urgent action to address chemicals in plastics as part of the global action on plastic pollution



# Strong links to issues of concern identified under SAICM & GCO-II

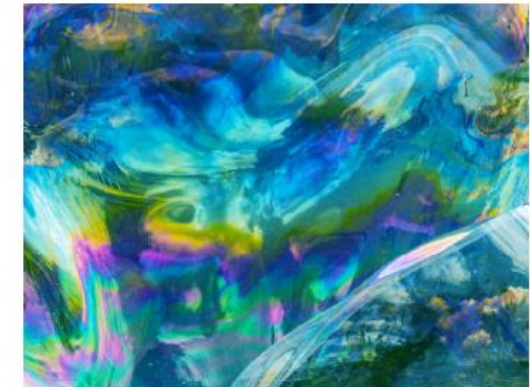
**HSLEEP**  
Persistent organic pollutants  
Polychlorinated biphenyls  
Cadmium  
Polychlorinated naphthalens  
Polycyclic aromatic hydrocarbons  
Endocrine disrupting chemicals  
Short-chain chlorinated paraffins  
Bisphenol A  
PFASs  
Phthalates  
Triclosan  
Lead  
Polybrominated diphenylether



**UN environment programme**

**An Assessment Report on Issues of Concern:  
Chemicals and Waste Issues Posing Risks to  
Human Health and the Environment**

September 2020



More information on each issues of concern - factsheets.  
<https://www.unep.org/resources/factsheet/assessment-report-issues-concern-factsheets>

# Chemicals in Plastics – Awareness-raising video



[Plastic pollution: harmful chemicals in our plastics \(unep.org\)](https://www.unep.org/plasticpollution)

# UNEP Global Mercury Partnership Study Reports

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# UNEP Global Mercury Partnership Study Reports

- Technical study reports developed in the context of the UNEP Global Mercury Partnership
- Focus on mercury from oil and gas & mercury from non-ferrous metals, following decision by Partnership Advisory Group (PAG)
- Supported by Partnership Area leads, PAG co-chairs, partners and experts through consultation processes



[www.unep.org/globalmercurypartnership/](http://www.unep.org/globalmercurypartnership/)

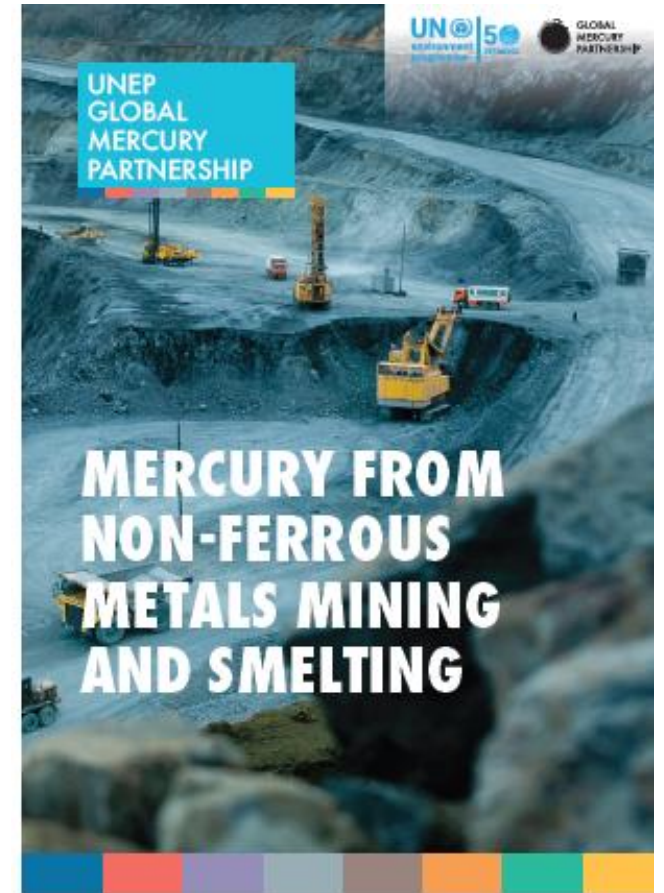
# Mercury from non-ferrous metals mining and smelting

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## [Global Mercury Partnership Technical Study report on mercury from non-ferrous metals mining and smelting](#)

- **Overall goal:** a better understanding of the mercury mass balance globally between supply, storage, and waste treatment related to nonferrous metals mining and smelting operations.

**Future work planned** following discussions at PAG 13 (November 2022): online session week of 15 May 2023.



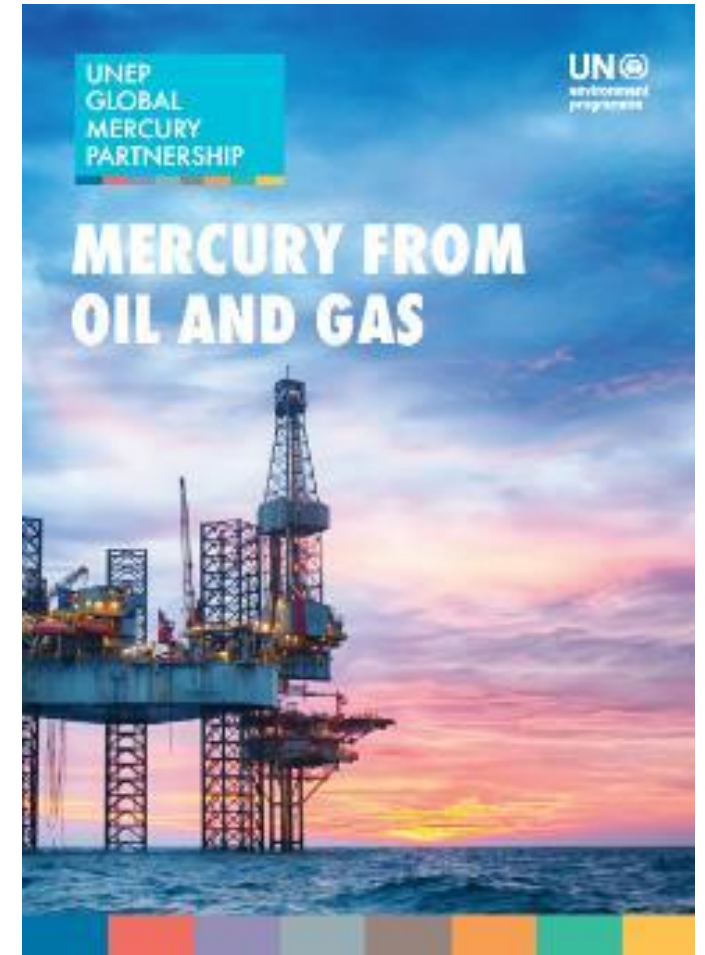
# Mercury from the oil and gas sector

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[Global Mercury Partnership Technical Study report on mercury from the oil and gas sector.](#)

- **Overall goal:** better understand how mercury can be released, in addition to how waste is treated and accounted for and how it may enter the market for other uses.

**Future work planned** following discussions at PAG 13 (November 2022): online technical session week of 15 May 2023, to further exchange on best practices and experiences in managing mercury along the oil and gas value chains.



# Thank you for your attention

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