

Global Framework on Chemicals – for a Planet Free of Harm from Chemicals and Waste

Distr.: General
27 May 2025
English only

**Open-ended Working Group of the
Global Framework on Chemicals – for a
Planet Free of Harm from Chemicals and Waste
First meeting
Punta del Este, Uruguay, 24–27 June 2025
Agenda item 3h of the provisional agenda*
Measurability structure and indicators**

Measurability structure

Note by the secretariat

1. The Secretariat of the Global Framework on chemicals has prepared this document in consultation with the Co-Chairs of the open-ended ad hoc group on measurability and indicators and with contributions from the Inter-Organization Programme for the Sound Management of Chemicals (IOMC), UNEP and WHO.
2. Annexes to the main document are as follow:
 - Annex I – Interim criteria to select indicators of the Global Framework on Chemicals
 - Annex II – Interim proposed template factsheet for indicators of the Global Framework on Chemicals
 - Annex III – Workstream 1
 - Annex IV – Workstream 2
 - Annex V – Workstream 3
 - Annex VI – Proposed Measurability structure
3. The document is presented as received, without formal editing.

* UNEP/GFC/OEWG.1/1

Annex

Measurability structure

I. Introduction

1. The Global Framework on Chemicals – for a Planet Free of Harm from Chemicals and Waste was adopted by the International Conference on Chemicals Management (ICCM5) at its fifth session held in Bonn, Germany, from 25 to 29 September 2023.
2. The Framework covers the entire life cycle of chemicals, including in products and waste, with the overall Vision of a planet free of harm from chemicals and waste for a safe, healthy and sustainable future.
3. The Framework contains a measurability structure, described in its section XI and to be included in its Annex III, that aims at facilitating the reporting and monitoring of progress and impact in the implementation of the Framework and contributes to assessing progress towards its Vision.
4. The Conference, with Resolution V/9 on Measurability Structure, established an Open-ended Ad hoc Group on Measurability and Indicators to work in an online setting on the preparation of recommendations for finalizing the measurability structure and a proposal for a set of indicators for Annex III to the Framework, to be considered at the next session of the International Conference.
5. Additionally, the resolution requested the Secretariat to support the work of the Ad Hoc group. Additionally, the United Nations Statistical Commission, participating organizations of the Inter-Organization Programme for the Sound Management of Chemicals (IOMC) and other relevant stakeholders were invited to participate in the work.

II. Scope of the Open-ended Ad hoc Group

6. The Open-ended Ad hoc Group on Measurability and Indicators is set up as a subsidiary body of the International Conference and, therefore, Section 9 of the rules of procedure on subsidiary bodies and rule 23.2 of the rules of procedure of the International Conference apply *mutatis mutandis* to the proceedings of the ad hoc group, unless otherwise decided by the International Conference at its next session.
7. The Open-ended Ad hoc Group on Measurability and Indicators is expected to develop a proposal for a set of indicators to measure progress in the implementation of the Framework and in evaluating overall impact on achieving sound chemicals and waste management for consideration at the next session of the Conference.
8. Additionally, the ad hoc group will prepare recommendations on any further work that may be required for operationalization of measurability structure of the Framework to facilitate reporting and monitoring of progress and impact in the implementation of, as well as to contribute to assessing progress towards the vision of the Framework.

III. Activities and organization of work

a) Outcomes of the meetings of the Open-ended Ad hoc Group on measurability and indicators

9. The Open-ended Ad hoc Group on Measurability and Indicators has held five meetings in an online setting to advance on its objectives. Meetings were convened for 2-3 hours and conducted in English only. Participation in the meetings was open to all stakeholders and broad participation across various stakeholder groups and sectors was encouraged to ensure regional and sectoral balance within the ad hoc group. Participants with relevant technical expertise and experience who could contribute significantly to a successful outcome were particularly encouraged to actively participate in the meetings.

10. The first meeting was organised in two segments and were held on 16 April 2024 and on 13 May 2024, respectively. The meetings saw the participation of 83 stakeholders for the first segment and 131 stakeholders for the second segment. At the first segment, Itsuki Kuroda (Japan) and Keima Gardiner (Trinidad and Tobago) were elected as co-chairs of the Ad hoc Group. At the second segment, the Ad hoc Group agreed on its main deliverables and areas of work, key milestones, as well as working modalities. The Co-Chairs organized the work into three thematic workstreams and there was agreement that the task teams would be led by, among others, international organizations in cooperation with relevant stakeholders:
 - a. Workstream 1: Assessment of existing indicators identified in document SAICM/IP.4/INF/39/Rev.1;
 - b. Workstream 2: Development of additional indicators needed to complete the measurability structure;
 - c. Workstream 3: Identification and assessment of thematic and sector-specific indicators.
11. The mandate of Workstream 1 task team is to assess the pertinence of existing indicators identified in the updated report (SAICM/IP.4/INF/39/Rev.1)¹ prepared by the IOMC. The work may require: (a) Revisiting the screened list of 63 indicators that were selected in the report against the targets under the Framework; (b) Revisiting the “long list” of 279 existing indicators that were identified in the report as relevant and/or meaningful to the chemicals and waste agenda with the aim of identifying any additional indicators that could be relevant to the Framework; and (c) Performing a gap analysis based on the findings from the first two steps above to inform the development of new indicators under Workstream 2.
12. The mandate of Workstream 2 task team is the development of indicators that are not currently available but are needed in order to complete the Framework's measurability structure, with two parts: i) work on the two high-level indicators: the global environmental burden attributable to chemicals and waste indicator; and the global burden of disease attributable to chemicals and waste indicator; and ii) work on headline, process and impact, as well as other indicators to support the development of a comprehensive set of additional indicators to bridge gaps, identified in workstream 1 and 3.
13. The mandate of Workstream 3 task team task is to undertake an additional analysis and assessment of thematic and sector-specific indicators (either existing or under development) relating to specific economic sectors or themes of relevance to the Framework, building on existing efforts and work. Linkages between pollution from chemicals and waste and climate change, biodiversity loss, labour, health aspects, waste, finance, trade, innovation, and sustainable chemistry as well as relevant economic sectors will be explored.
14. The Ad hoc Group agreed that the IOMC would lead the work under Workstream1, UNEP and WHO would lead the work under Workstream 2 on the high-level indicators, and the Secretariat would lead the work under Workstream 3.
15. The second meeting of the ad hoc group was held on 14 August 2024 and saw the participation of 127 stakeholders. At the second segment it was agreed that the Secretariat, in coordination with the Co-Chairs, should develop a thought starter on criteria. The Ad hoc Group discussed the draft thought starter on criteria to select indicators that are listed in the Measurability structure in Annex III to the Framework at this meeting (document GFC/OEAHGMI.2/2)² and agreed to the selection of three main criteria to that would help identifying top priority indicators from the existing list of indicators. The Secretariat, in coordination with the Co-Chairs, also developed a thought starter on a draft template Factsheet for indicators. The work of the task teams included the preparation of a Concept Note to guide the work, which included a workplan and timeline for Workstream 1 and Workstream 2 and the launch of a questionnaire under Workstream 3.
16. The next meetings of the Ad hoc Group were dedicated to reporting back on progress of work under the three workstreams followed by discussions open to all stakeholders participating in the meetings, further refinement of the two thought starters, and, finally, agreement on the next steps proposed by the Co-Chairs. The third meeting was held on 13 November 2024 with 107 participants. The fourth meeting was held on 12 February 2025 with 136 participants.
17. The fifth meeting was held on 16 April 2025 with 96 participants. The objective of this meeting included reporting back on progress of work under the three workstreams and also to inform the

¹ Document SAICM/IP.4/INF/39/Rev.1

² GFC/OEAHGMI.2/2 “Thought starter – On the criteria to select indicators of the Global Framework on Chemicals”.

ad hoc group about the organization and the tentative schedule of the GFC OEWG, planned to take place in Punta del Este Uruguay, from 24 to 27 June 2025.

18. Registration to the three workstreams is open to all stakeholders through a link available on the webpage dedicated to measurability and indicators³. Since the organization of work into three workstreams, the numbers of stakeholders who were interested in contributing to this work and have registered to the task teams have steadily increased. New request to join the task teams are periodically processed and the total number of registered participants is updated (see Table 1).

Table 1: Number of registered stakeholders to the three workstreams (total and per stakeholder group) - last update was on 9 April 2025.

	NGO / civil society	Government/ Public sector	Private sector/ Industry	Academia/ research institute	IGO	total
workstream 1	45	55	12	12	10	134
workstream 2	39	43	12	14	12	120
workstream 3	50	45	14	15	10	134

b) Documents

19. All documents produced for the meetings of the Ad hoc Group were posted on the webpages of the corresponding meeting including the meeting reports that were prepared by the Secretariat in consultation with the Co-Chairs.⁴
20. A concept note⁵, developed by the Co-Chairs with the support of the Secretariat and introduced at the second segment of the first meeting of the ad hoc group, sets out proposal for the implementation of Resolution V/9 on the measurability structure, detailing the organization of work of the Ad hoc Group with timeline and expected outcomes.
21. A first draft (GFC/OEAHGMI.2/2 “Thought starter – On the criteria to select indicators of the Global Framework on Chemicals”) was introduced at the second meeting of the ad hoc group and after two cycles of revision. The interim criteria were agreed by the Ad hoc Group at its fourth meeting (GFC/OEAHGMI.4/2– “Interim criteria to select indicators of the Global Framework on Chemicals”⁶). The interim document expands on the criteria that are listed in the Measurability structure in Annex III to the Framework with the addition of one more criterion (criterion g – “Must show progress”) proposed by the Co-Chairs to complete the list of criteria. The document also delineates three criteria that were agreed by the Ad hoc Group to refine the number of indicators and identify top priority indicators from the existing list of indicators. The interim document GFC/OEAHGMI.4/2 “Interim criteria to select indicators of the Global Framework on Chemicals” is attached in Annex I.
22. Each proposed indicator will be accompanied with a factsheet that allows standardization of the presentation of information including a rationale for their selection. Hence, factsheets facilitate the evaluation and comparison of different indicators and provide a robust methodology to assess their relevance and pertinence. The draft template factsheet was introduced at the second meeting of the Ad hoc Group (document GFC/OEAHGMI.2/3) and revised based on the input received from stakeholders. The interim document GFC/OEAHGMI.3/3 “Proposed Factsheet template for indicators of the Global Framework on Chemicals,” presented and agreed by the Ad hoc Group at its third meeting, is attached in Annex II.
23. Documents developed by the task team leads, with the support of the task teams, are detailed in Annexes III, IV and V delineating the progress of work of Workstream 1, Workstream 2 and Workstream 3, respectively. Annex V presents the provisional Measurability structure.

³ <https://www.unep.org/global-framework-chemicals/open-ended-ad-hoc-group-measurability-and-indicators>.

⁴ GFC/OEAHGMI.1/Seg.1/Report/Rev.1 “Report of the first meeting of the open-ended ad hoc group on measurability and indicators – Segment”; GFC/OEAHGMI.1/Seg.2/3 “Report of the first meeting of the open-ended ad hoc group on measurability and indicators – Segment 2”; GFC/OEAHGMI.2/7/Rev.1 “Report of the second meeting of the open-ended ad hoc group on measurability and indicators”; GFC/OEAHGMI.3/5 “Report of the third meeting of the open-ended ad hoc group on measurability and indicators”; GFC/OEAHGMI.4/4 - Report of the fourth meeting of the open-ended ad hoc group on measurability and indicators; GFC/OEAHGMI.5/2 – “Report of the fifth meeting of the open-ended ad hoc group on measurability and indicators” (soon to be posted).

⁵ GFC/OEAHGMI.1/Seg.2/2

⁶ GFC/OEAHGMI.4/2 – “Interim criteria to select indicators of the Global Framework on Chemicals”.

IV. Next steps

24. The Ad hoc Group will continue organizing quarterly meetings to progress with work. The three workstreams will advance with work as planned and report back on progress to the Ad hoc Group.
25. The Ad hoc Group under the guidance of the Co-Chairs will prepare recommendations for the finalization of the measurability structure and a proposal for a set of indicators, for consideration of the International Conference.

Annex I

Interim criteria to select indicators of the Global Framework on Chemicals

Introduction

The following information is reproduced from the document that was agreed at the fourth meeting of the open-ended ad hoc group on measurability and indicators (document GFC/OEAHGMI.4/2).

Background

At its Fifth Session held from 25 to 29 September 2023 in Bonn, Germany, the International Conference on Chemicals Management (ICCM5), adopted the “Global Framework on Chemicals – For a Planet Free of Harm from Chemicals and Waste”, along with a set of resolutions to support implementation.

The Framework includes a measurability structure in its Annex III, described in its section XI. The measurability structure aims to facilitate reporting and monitoring of progress and impact made in the implementation of the Framework and contribute to assessing progress towards the Vision.

The International Conference established an open-ended ad hoc group on measurability and indicators (OEAHGMI) that will work on preparing recommendations for finalizing the measurability structure and a proposal for a set of indicators.

The measurability structure is composed of different categories of indicators and lays out a set of criteria that the indicators meet. All indicators in the measurability structure will be either from a list of readily available existing indicators or new indicators.

This document intends to provide an insight of the criteria to be used in the process of reviewing and screening indicators that align with the Vision, Strategic Objectives and targets of the Global Framework on Chemicals.

Categories of indicators in Annex III to the Framework

The measurability structure presents three categories of indicators to be used to track progress in the implementation of the Global Framework on Chemicals:

- a) High-level indicators: A set of high-level indicators is necessary to address the progress of the Framework in meeting its Vision. These indicators relate to the impact of chemicals and waste on human health and on the environment and they are used for tracking national, regional, and global progress and for communication purposes. These indicators are:
 - i. The global burden of disease attributable to chemicals and waste;
 - ii. The global environmental burden attributable to chemicals and waste.
- b) Headline indicators: These indicators monitor specific components of each strategic objective at national, regional, and global levels. They are focused on outcomes related to chemicals and waste management;
- c) Target indicators: These indicators track progress in reaching the targets of the Framework. They include process indicators that measure actions taken, and impact indicators that measure results achieved against the targets. Target indicators are for thematic or in-depth analysis of each target and they are used at global, regional, and national levels where relevant;
- d) Other indicators, as decided.

Each indicator is included in the Framework only once, except for those that are relevant to more than one target or strategic objective. It is important for indicators to be equipped with a clear and concise factsheet.

Set of criteria in Annex III to the Framework

A set of criteria for the indicators is provided in Annex III to the Framework. The criteria are listed here and expanded:

- a) Relevance and/or meaningfulness to the Framework: Relevant indicators are actionable and produced in a timely manner. An indicator should be clearly linked to one or more targets and provide robust measures of progress towards the target(s). The indicator should be relevant to policy formulation and provide enough information for policy making. It should also be sensitive and responsive to policy interventions and other underlying causes of change at the appropriate level (global, regional, national, and local). For global monitoring, the indicator should be relevant to all countries.
- b) Availability of data to create a baseline and to assess progress: To ensure the effectiveness of indicators, historical data, where available, may be used to establish a baseline. Where new indicators are required, and historical data is not yet available for them but can be generated, these data may be used to establish a baseline. Reliable and verifiable data sources are essential to ensure the accuracy and credibility of the indicators. The baseline data will allow for the measurements of progress over time and will facilitate the assessment of the Framework's implementation.
- c) Have a designated custodian: Each indicator should have a designated custodian responsible for data collection and maintenance. This custodian should have the necessary resources and expertise to manage the indicator effectively. There should be one or more designated lead responsible agencies for timely and high-quality reporting of the indicator and for undertaking the related analysis. At the international level, there should be an agency or agencies responsible to aggregate national or regional data, development and dissemination of concepts, methods and analysis used, describing the assessment of progress made globally and by regions. In addition, the agency should provide guidance and/or assistance to countries to strengthen their capacity to produce data necessary for the indicators.
- d) Allow for regular updating to help ensure sustainability of the measurement: Indicators should be updated regularly to ensure they reflect current conditions and trends. To the greatest extent possible, and unless new data and data sources are required for new indicators, indicators should be constructed from well-established sources of public and private data. The capacity for data collection and analysis to support the indicator should exist, or be developed, at national and international levels.
- e) Allow for easy access to data and enable stakeholder participation in data collection: Data for indicators has been made publicly available and accessible to ensure transparency. Stakeholders should be actively involved in the development and maintenance of the indicators and data, ensuring that the data collected is relevant and has wide stakeholder acceptance. Additionally, the indicator should be clear and easy to understand for policy makers, the general public and other stakeholders, and unambiguous for interpreting. Use of language and terminology and the presentation of information should be carefully considered.
- f) Data comparability through standardized methodologies: Standardized data collection and processing allows for data comparability and accurate analysis.

These criteria were used by the Inter-Organization Programme for the Sound Management of Chemicals (IOMC) to review and screen the long list of 279 existing indicators originally identified as relevant to the chemical and waste agenda. These criteria contributed to reducing the number of indicators down to 63⁷.

Criteria to identify priority indicators for further consideration

The Co-Chairs of the OEAHGMI have proposed to revisit the list of 63 indicators and select two groups of top priority indicators taking into account three main criteria. The list of criteria selected to be used for this new analysis includes two criteria from the set given in the measurability structure and proposes one new criterion:

- a) Relevance/meaningfulness to the Global Framework on Chemicals (this criterion was already identified as criteria a) in Annex III)
- b) Availability of data (this criterion was already identified as criteria b) in Annex III)

⁷ Document SAICM/IP.4/INF/39/Rev.1

- g) Demonstration of progress – the indicator should show change over time. It is recommended that those indicators that do not evolve over time or are not expected to further evolve over time in future would not be included in the priority group (this is an additional suggested criterion).

Conclusions

Selecting appropriate indicators for the Framework is crucial for effective monitoring, for measuring progress and for reporting. The criteria that are listed in Annex III to the Framework have been reflected upon in this document with the aim to provide a comprehensive guide that can support stakeholders in their analysis and selection of indicators that will enable measurement of progress towards achieving the Vision and Strategic Objectives of the Global Framework on Chemicals.

Annex II

Interim proposed template factsheet for indicators of the Global Framework on Chemicals

Introduction

The following information is reproduced from the document that was agreed at the third meeting of the open-ended ad hoc group on measurability and indicators (document GFC/OEAHGMI.3/3).

Background

1. At its fifth session held from 25 to 29 September 2023 in Bonn, Germany, the International Conference on Chemicals Management (ICCM5) adopted the “Global Framework on Chemicals (GFC) – For a Planet Free of Harm from Chemicals and Waste” along with a set of resolutions to support implementation and a High-Level Declaration (the “Bonn Declaration on the Global Framework for Chemicals”).
2. The Global Framework on Chemicals covers the entire life cycle of chemicals, including in products and waste, with the overall vision of a planet free of harm from chemicals and waste for a safe, healthy and sustainable future.
3. The Framework includes a measurability structure (in its Annex III described in its section XI) that aims to facilitate reporting and monitoring of progress and impact made in the implementation of the Framework and contribute to assess progress towards the Vision.
4. An open-ended ad hoc group on measurability and indicators, established by the Conference through its Resolution V/9 on measurability and indicators, started working on recommendations for finalizing the measurability structure and on a proposal for a set of indicators for Annex III for consideration at the next session of the International Conference.
5. The proposed Factsheet template for indicators of the Global Framework on Chemicals, presented in this Annex, allows standardization of the presentation of information, hence it is intended to facilitate the evaluation and comparison of different indicators as well as to provide a robust methodology to assess their relevance and pertinence to the Framework.

Name of indicator	
SPECIFICATIONS	
<i>This section provides the technical description of the indicator.</i>	
Description	Complete description of what the indicator would demonstrate. If relevant, include the reporting/measurement unit. List the target(s) that the indicator responds to.
Group	High-level/Headline/Target/Process/Impact.
Rationale/Relevance to the Framework/ Target relevance	Description of the relevance of the indicator to the Framework and why it was included to the list of indicators. Explanation of the importance of the indicator in achieving specific objectives and targets. If applicable, the scientific basis of the indicator should also be provided.
Linkages with development agendas	List relevant SDG indicators, policies / international conventions related to the indicator. Mention if the indicator is widely accepted and used in other frameworks, member states, etc.
Scale of application	Global, Regional, National, Sectoral.
Reporting period	Frequency of updates.
Ownership/custodian	Responsible entity for measuring / data collection and monitoring.
ASSESSMENT	
<i>Evaluation of the indicator.</i>	
Methodology	Brief summary of the methodology used to develop the indicator (further explanation is provided below in the Methodology section)
Assessment against criteria	Criteria met by the indicator.
Robustness	Description of the degree to which the indicator remains valid over time / statistical validation (if applicable).
Limitations	Select from drop-down menu (uncertainties, data gaps, reporting, lack of funding, ..., Other)
DATA SPECIFICATIONS	
<i>This section provides information on data sources (including links to sources or metadata), availability, scale of data collection, etc.</i>	
Data availability, accessibility and compatibility	Identification of data sources. Current availability of data / Historical data to establish a baseline. Where applicable, add baseline (link to baseline where available). For new indicators, evaluate future data availability. Assess compatibility of IT systems and databases
Sustainability of the data collection	Where applicable, description of system in place to guarantee regular data collection as well as description of resources needed.
Reporting mechanism	National / regional / sectorial reporting systems.
Data disaggregation / aggregation	Consideration of whether the global/regional indicator can be disaggregated to national level or global indicator can be collated from national data.
METHODOLOGY	
Methodology for indicator calculation	Description of how the indicator is developed (details of needed steps to reproduce the indicator). Methodology for calculating the indicator. Indication of units. If applicable, methodological issues (including comparability across countries and over time).
REFERENCES	List of relevant references and sources.

Annex III

Workstream 1

I. Scope

1. The Inter-Organization Programme for the Sound Management of Chemicals (IOMC), with UNECE also participating, offered to lead the work under this workstream.
2. Workstream 1 is tasked with streamlining and strengthening the indicators, recalling that the aim is to reduce the number of indicators and enhance their robustness.
3. The objective of the Task team of Workstream 1 is to assess the relevance of existing indicators that are identified in the updated "Inventory and analysis report: Existing indicators on chemicals and waste management" (document SAICM/IP.4/INF/39/Rev.1)⁸ prepared by the IOMC considering the Framework's measurability structure.
4. As of 9 April 2025, 134 stakeholders were registered as participating in the workstream.

II. Organization of work

5. The IOMC plus UNECE worked on the information available in INF39 to propose a refined list of indicators. A gaps analysis has also been proposed to the workstream. Views from the participants were sought through a webinar and two surveys.

III. Progress of work

6. The work has progressed well with the engagement of stakeholders in the workstream.
7. A webinar was organised on 23 September 2024, which outlined the IOMC's proposed list of indicators, having reduced the number and sought to enhance the robustness, relevance to the framework and opportunities for progress.
8. The webinar introduced a survey to seek stakeholders' views on the IOMC's revised, proposed list of indicators against the selected targets, indicating their agreement, suggesting certain indicators which may be removed, or offering other indicators. Using the outcomes, the workstream has produced a draft measurability structure that includes 22 indicators across the GFC targets (noting some indicators are applicable to more than one target). See Annex VI for the draft structure.
9. The survey was open from 24 September to 13 October 2024 and received 45 responses. The results from the survey were presented to the third meeting of the Ad Hoc group that was held on 13 November 2024.
10. Using the draft measurability structure and at the request of the Co-chairs of the Open-ended Ad Hoc group, the IOMC was able to propose a gaps analysis, serving to indicate where the indicator(s) fully addresses the target they are assigned to, partially addresses it, or does not address it at all.
11. This was sent to stakeholders to seek their views through a second survey; it was open from 9 – 30 April 2025 and received 18 responses. Further analysis will be undertaken to present the outcomes to the workstream and identify next steps.
12. The workstream has produced a draft measurability structure (see Annex VI). Furthermore, stakeholders have been engaged through a dedicated webinar, two surveys, and updates to the overall open-ended ad hoc group.

⁸ Document SAICM/IP.4/INF/39/Rev.1

IV. Next steps

13. The IOMC will analyse the responses to the gap analysis survey and coordinate with the workstream stakeholders to provide the results and identify next steps. This may include passing the results to workstreams 2 and 3 to prioritise either the search for indicators to fill the gaps, or the development of new indicators.
14. The IOMC is also drafting factsheets for the 22 identified indicators. These will be shared with custodian agencies for the indicators for review and subsequent submission to the workstream to provide input on the process. Feedback, lessons-learned and suggestions will be passed on to the open-ended ad hoc group.

Annex IV

Workstream 2

I. Scope

1. Workstream 2 on “additional indicators” aims at developing a comprehensive set of indicators to bridge gaps and complete the Framework's measurability structure, including high level indicators.
2. At the first meeting of the open-ended ad hoc group on measurability and indicators (OEAHGMI, segment 2, May 2024), WHO was invited to take the lead of a task team⁹ that would work on the assessment of the high-level indicator (HLI) on the “global burden of disease due to chemicals and waste”. At the same meeting, UNEP was invited to take the lead of a task team that would work on the development of the high-level indicator on the “global environmental burden attributable to chemicals and waste” with support of the Organisation for Economic Co-operation and Development (OECD) and the United Nations Economic Commission for Europe (UNECE) together with other interested stakeholders.
3. WHO and UNEP were also requested to outline a workplan, including working modalities with stakeholders, to be introduced at the second meeting of the OEAHGMI (August 2024)..

II. Organization of work

A. Global burden of disease due to chemicals and waste

4. WHO presented a thought starter on existing approaches to estimation of global burden of disease at the second meeting of the OEAHGMI. While the concept and methodology for deriving Global Burden of Disease estimates are well established and with WHO and the Institute of Health Metrics and Evaluation (IHME) and ILO regularly publishing in this area, it is not clear whether these existing approaches would full meet the criteria established by the GFC in scope of chemicals addressed, inclusion of waste, types of exposures or how regularly estimates are produced.

B. Global environmental burden attributable to chemicals and waste

5. At the second meeting of the OEAHGMI, UNEP introduced a proposed workplan for the conduct of the work to develop the HLI on the “global environmental burden attributable to chemicals and waste”, which laid out a possible approach highlighting proposed key steps, organization of work, as well as timeline¹⁰. Participants at the second meeting of the OEAHGMI were requested to share any comments they may have on the approach, and those were taken into consideration in advancing the work.
6. As per the proposed approach, the task team is considering several aspects in undertaking its work, namely: the objectives and scope of the high-level indicator, the criteria that it should meet, its constituting elements (variables/(sub-)indicators), the methodology to construct the HLI and any specific requirements in terms of operationalization. Subsequent work will include testing of the proposed high-level indicator, collection of data for the baseline, and development of a fact sheet presenting its key features for consideration at the International Conference.
7. As of 9 April 2025, the task team comprised 120 stakeholders, including representatives from governments and public sector entities, non-governmental organizations (NGOs) and civil society organizations, intergovernmental organizations (IGOs), private sector (incl. industry), and research/academic institutions.
8. Regular virtual meetings of the task team have been convened to advance the work, with three meetings held during the period leading to the OEWG in September 2024, January 2025, and April 2025. These meetings focused on the objectives, scope and constituting elements of the HLI,

⁹ The task team has been established under workstream 2 on “additional indicators” which aims at developing a comprehensive set of indicators to bridge gaps and complete the Framework's measurability structure.

¹⁰ See concept note available in document GFC/OEAHGMI.2/5 - Concept note workstream 2 - UNEP at <https://www.unep.org/events/conference/second-meeting-open-ended-ad-hoc-group-measurability-and-indicators>.

featuring, amongst others, input from different experts as well as other workstreams. Presentations made are available on the dedicated meeting webpages.¹¹

9. Views from task team members were also sought through online surveys during these meetings (Mentimeter), as well as through a dedicated survey conducted in March/April 2025. Input shared through these surveys has been reported back to the task team and considered in the further iterations of the work. Reports presenting the input received are available on the task team dedicated webpage¹¹.
10. Experience from experts in different fields was sought through consultation meetings, in particular to gain experience from other processes and discuss possible constituting elements of the HLI following the discussions in the context of the task team. Consulted experts of different stakeholder groups, including IGOs, governments, academic/research institutions, and NGOs.
11. UNEP reported on the progress of work at the meetings of the OEAHGMI. Regular coordination meetings with leads from other workstreams/task teams established under the OEAHGMI were convened by the Secretariat of the Global Framework on Chemicals to facilitate coordination.

III. Progress of work

A. Global burden of disease due to chemicals and waste

12. WHO will conduct a webinar on 10 June 2025 to further strengthen understanding of the existing systems and to create a basis for development of a workplan for the task group to further discuss on this issue.

B. Global environmental burden attributable to chemicals and waste

13. In the period leading to the OEWG, the task team focused its work on determining the objectives and scope of the HLI, also considering the criteria to be met as well as possible constituting elements.

a. Objectives of the high-level indicator

14. As laid out in Annex III of the Global Framework on Chemicals on the Measurability structure, the overall aim of the HLI on the environmental burden is, together with the HLI on the disease burden, to measure progress towards the vision of the Global Framework on Chemicals: “a planet free of harm from chemicals and waste for a safe, healthy and sustainable future”. Other aspects that may be useful to consider in developing the indicator relate to its ability to facilitate communication about the importance of chemical and waste management to the public and policymakers, and its implications for human health and the environment, showing global trends in that regard.
15. Based on the discussions held and the feedback provided through the task team meetings and the conducted surveys¹¹, it was proposed that the objective of the HLI should be to “*provide a comprehensive picture on the impacts, trends, and environmental releases of chemicals and waste; track and promote response measures; enhance public awareness and engagement; and demonstrate the link between environmental and disease burdens, supporting progress in sustainable chemicals and waste management*”. Most respondents to the last survey conducted expressed support for this description.

b. Scope of the high-level indicator

16. Determining the scope of the HLI is crucial to build its structure and determine its constituting elements. In conducting its work, the task team considered several aspects that the indicator may relate to, including levels of air, water, and soil contaminants/pollutants and waste, as well as to impacts such as pollution of water, land, and soil, depletion of natural resources, disruption of ecosystem services and food chains, loss of biodiversity, or climate change, but also means to measure progress, e.g., in terms of improvements of environmental state.
17. To determine the scope of the HLI, the task team was invited to consider how to define the “environmental burden” as it applies to chemicals and waste in the context of the Global Framework on Chemicals, as well as how the vision of the Framework may translate in practice. Members of the task team considered the following possible definition: “Degradation of the environment and its services that result from activities involving chemicals and waste throughout

their life cycle”. Most respondents to the last survey expressed support for such definition, and additional suggestions/observations were provided for further consideration¹¹.

18. Based on the discussions and input from the first and second task team meetings¹¹, a refined scope was proposed, incorporating the following main dimensions: 1. Economic, social, and consumer; 2. Production, use/consumption, trade, and release of chemicals and waste; 3. Presence of chemicals and waste in environmental matrices like air, water, soil, and biota; 4. Impact of chemicals and waste on the environment; 5. Response measures – regulatory and voluntary approaches. Stakeholders also emphasized the linkages between the environmental burden and the burden of disease.
 - The **“Economic, social, and consumer”** dimension aims to reflect trends that will affect global production and consumption. These elements may, for instance, be reflected at the economic and financial levels, driving the types and quantities of chemicals being produced, among others.
 - The **“Life cycle of chemicals”** dimension includes different stages^{12 13 14}, including extraction of natural resources (e.g., mining of metals), production, trade, consumption/use, and finally disposal (including waste and waste management).
 - The **“Presence of chemicals in the environment”** dimension reflects the chemicals' presence and, if possible, concentration in the different matrices of the environment may speak to the current state of the environment. This dimension is described in the different matrices (air, water, and soil/land) and ultimately in the different biota (animals, plants, etc.).
 - The **“Impact of chemicals and waste on the environment”** dimension can be reflected at different levels. The production, use, and ultimate release of chemicals (and waste) into the environment can lead to disturbances in the ecosystems, depending on the chemicals' properties and concentrations. Chemical pollution pressures ecosystems in various ways, for example, contributing to climate change (e.g., atmospheric pollution - GHG), increasing eutrophication¹⁵ in water bodies (e.g., nitrogen loads into the environment), causing acidification (e.g., CO₂ emissions), contributing to biodiversity loss¹⁶ and ultimately disturbing ecosystem functioning^{17 18}. These perturbations will impact the well-functioning of the ecosystems, which are essential to provide critical ecosystem services (e.g., clean air, fresh water, etc.)^{19 20 21}.
 - The **“Regulation and other types of responses”** dimension fits into the category of Response of the DPSIR model. This dimension looks at measures that are implemented to protect human health and safeguard environmental resources, mitigate environmental pressures, restore ecological balance, and adapt to environmental impacts.
19. The environmental burden from chemicals and waste is intricately linked across these different dimensions.
20. The DPSIR model (encompassing Driving forces, Pressures, State, Impact, and Responses)^{12 22} was applied to showcase the relationship between the different dimensions of the environmental burden (**Figure 1**) and was presented for consideration of the task team. As highlighted below, the “economic, social, and consumer” dimension (**Driving forces**) may lead to decreased or increased chemical production and waste generation (**Pressures**), which in turn may alter the condition of the environment (**State**). Increased chemical and waste releases may result in various adverse effects, such as increased pollution and health risks (**Impacts**), prompting the need for both regulatory and voluntary interventions (**Responses**). This holistic approach illustrates how sectoral demand may drive environmental burden and highlights the need for integrated management strategies.

¹¹ <https://www.unep.org/global-framework-chemicals/workstream-2-development-additional-indicators>

¹² UNEP Guide to LIFE CYCLE MANAGEMENT - A bridge to sustainable products.

¹³ Sustainable Materials Management: The Road Ahead.

¹⁴ https://archive.epa.gov/ged/tutorial/web/pdf/dpsir_module_2.pdf

¹⁵ <https://portals.iucn.org/library/sites/library/files/documents/2020-037-En.pdf>

¹⁶ https://www.cbd.int/sites/default/files/2021-08/gbf_one_pager_target_07.pdf

¹⁷ <https://besjournals.onlinelibrary.wiley.com/doi/full/10.1111/1365-2664.12355>

¹⁸ <https://www.who.int/news-room/fact-sheets/detail/biodiversity>

¹⁹ <https://publications.jrc.ec.europa.eu/repository/handle/JRC120383>

²⁰ <https://encorenature.org/en/data-and-methodology/assets>

²¹ <https://www.swissre.com/institute/research/topics-and-risk-dialogues/climate-and-natural-catastrophe-risk/expertise-publication-biodiversity-and-ecosystems-services.html#/>

²² Initially developed by the European Environment Agency (EEA), see Smeets, Edith, and Rob Weterings. "Environmental indicators: Typology and overview." (1999).

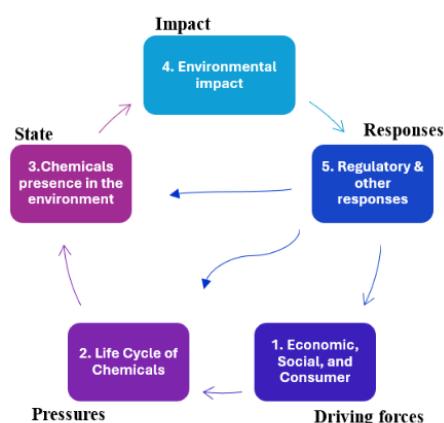


Figure 1. Diagram of the DPSIR model encompassing the possible scope of the HLI on the environmental burden attributable to chemicals and waste.

21. The need for both a comprehensive and practical approach in considering the scope of the HLI is essential. In this regard, most respondents to the last survey highlighted the importance of all dimensions, however, the ones related to “**Economic, social, and consumer**” and “**Regulation and other types of responses**” were ranked overall lower in terms of priority.

c. Possible constituting elements of the high-level indicator

22. An important aspect of the work of the task team since its inception has been to consider the possible constituents of the HLI. In this regard, it was suggested at the first meeting of the OEAHGMI to consider the applicability of existing information, data sets and assessments as well as monitoring systems, such as, the Pollutant Release and Transfer Registers (PRTR), or global monitoring plans under the chemicals and waste multilateral environmental agreements (MEAs). It was further suggested to consider Targets B7 and D6 of the Framework²³, as well as where relevant indicators developed under the effectiveness evaluation of other mechanisms (e.g., MEAs). It was further noted that the work considers cross-cutting issues such as gender and finance, building also on the lessons learned in the context of the climate change and biodiversity MEAs.
23. Building on the proposed objectives and scope of the HLI, an analysis of each possible dimension highlighted through the DPSIR model was conducted, considering what could be the potential constituents of each dimension, along with possible associated chemicals.
24. Table 1 provides a list of possible indicators or components for the HLI, clustered as per the different scope dimensions considered, developed based on guidance received, input provided by task team members, and survey feedback.
25. Table 2 focuses on the typical pollutants considered for the different environmental matrices and on the associated biota indicators. These elements are interlinked across the different dimensions. In determining dimension 3 “Presence of chemicals in the environmental matrices and biota”, one aspect has been to consider the chemicals that may impact these matrices, noting that these may be released at different stages of the lifecycle:
 - Different types of pollutants may be released into the atmosphere, either directly or indirectly, through exploration, production, and/or consumption activities, as well as from other environmental compartments (e.g., volatilization from water sources). All of these parameters contribute to the health status of the atmosphere. Based on the air pollution reports and frameworks from different entities (e.g., EEA²⁴, UNEP²⁵, WMO²⁶, IPCC⁸², UNCCF²⁷, WHO^{28 29}), a list of the main atmospheric pollutants is described in Table 2.

²³ <https://www.unep.org/global-framework-chemicals/framework/text-global-framework-chemicals>

²⁴ <https://www.eea.europa.eu/publications/air-quality-in-europe-2022/sources-and-emissions-of-air>

²⁵ <https://www.unep.org/resources/report/regulating-air-quality-first-global-assessment-air-pollution-legislation>

²⁶ <https://wmo.int/topics/greenhouse-gases>

²⁷ <https://unfccc.int/topics/mitigation/resources/registry-and-data/ghg-data-from-unfccc>

²⁸ <https://www.who.int/teams/environment-climate-change-and-health/air-quality-and-health/health-impacts/types-of-pollutants>

²⁹ <https://iris.who.int/bitstream/handle/10665/345329/9789240034228-eng.pdf>

- In the case of water (incl. both marine and freshwater systems), different types of chemicals can be released into the water system either directly (e.g., direct release of chemicals³⁰, partial or no treatment of wastewater^{31 32}, etc.), or indirectly from the atmosphere (e.g., deposition of airborne chemicals³³) and from soil or terrestrial sources (e.g., runoff of agriculture³⁴). When assessing water quality, it is important to consider different types of parameters depending on the type of water body, which include physicochemical, biological, and pathogen parameters^{29 36 38}. Water quality assessment is divided into two levels. Level 1 is predominantly used to provide basic monitoring, while the inclusion of level 2 provides in-depth information about the contamination level of the water body (Table 2). The compilation of these parameters was retrieved from different sources, including UN GEMStat⁶⁷, UN Water³⁵, GESAMP³³, WWQA³⁶, UN SDG³⁷ (e.g., SDG 6.3.2³⁸), FAO³⁴, and EU Water directives^{39 40}.
- Regarding soil and sediments, according to the Global Assessment of Soil Pollution Report⁴¹, a series of pollutants can be identified as the main hazardous to soil⁴¹. However, this list does not imply that other chemicals are not, or will not be, recognized as pollutants (Table 2).
- In the case of biota (living organisms including animals, plants, microorganisms, etc.), the levels of chemicals in different organisms (Table 2) can provide information not only about pollution in their habitats, but also about negative pressures they may be experiencing.

Table 1. Possible indicators/constituents of the HLI distributed according to the different scope dimensions.

Examples of possible indicators/constituents
<i>1. Economic, Social, and Consumer</i>
Consumer Footprint, GDP growth & industrial output, Total chemical production, Economic footprint
<i>2. Life Cycle of Chemicals</i>
Resource depletion/status ^{42 43} ; Material footprint ⁴⁴ , Water Footprint ⁴⁴ , Energy use, Land footprint Chemical production and ⁴⁵ trade ⁴⁶ ; Emissions of pollutants during manufacturing, Chemical Footprint ⁴⁷ , PRTR emissions ⁴⁸ , Greywater Footprint, Chemical Flow Analysis, Carbon Footprint ⁴⁹ , Life Cycle Assessment (LCA) ⁵⁰ , Energy Use, Waste footprint ⁴⁴ Consumption and Usage ⁵¹ : Domestic Consumption Footprint ⁵¹ , Plastic & Microplastic Release ⁵² , Industry consumption Disposal / End-of-life: Waste Footprint, Hazardous & non-hazardous waste ⁴⁴ , Hazardous Chemical residues in waste ⁵³ , E-Waste ⁵⁴ , Wastewater ^{44 55} , Circular economy ⁵⁶
<i>3. Presence of chemicals in the environmental matrices and biota</i>

³⁰ <https://industry.eea.europa.eu/analyse/releases>

³¹ https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=OJ:L_202403019

³² <https://www.unwater.org/our-work/integrated-monitoring-initiative-sdg-6/indicator-631-proportion-domestic-and-industrial>

³³ <http://www.gesamp.org/site/assets/files/1261/pollution-in-the-open-oceans-a-review-of-assessments-and-related-studies-en.pdf>

³⁴ <https://openknowledge.fao.org/server/api/core/bitstreams/686ea465-7847-428e-b599-b236f2240e47/content>

³⁵ <https://www.unwater.org/>

³⁶ https://wwqa.info/wp-content/uploads/2024/05/GWQ_guidelines_2024.pdf

³⁷ <https://www.sdg6data.org/en>

³⁸ https://www.unwater.org/sites/default/files/2024-08/SDG6_Indicator_Report_632_Progress-on-Ambient-Water-Quality_2024_EN_0.pdf

³⁹ https://environment.ec.europa.eu/publications/proposal-amending-water-directives_en

⁴⁰ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32025D0439>

⁴¹ <https://openknowledge.fao.org/handle/20.500.14283/cb4894en>

⁴² <https://scp-hat.org/>

⁴³ <https://www.resourcepanel.org/data-resources>

⁴⁴ <https://unstats.un.org/sdgs/dataportal/database>

⁴⁵ <https://echa.europa.eu/information-on-chemicals>

⁴⁶ https://www.wto.org/english/tratop_e/tpr_e/trade_monitoring_e.htm

⁴⁷ <https://chemicalfootprint.org/>

⁴⁸ <https://industry.eea.europa.eu/analyse/releases>

⁴⁹ <https://www.tfs-initiative.com/product-carbon-footprint-pcf>

⁵⁰ <https://www.lifecycleinitiative.org/resources-2/global-lca-data-network-glad-2/>

⁵¹ <https://eplca.jrc.ec.europa.eu/ConsumptionFootprintPlatform.html>

⁵² <https://digital.gpmarinelitter.org/data/maps?categoryId=waste-management&subcategoryId=undefined&layer=undefined>

⁵³ <https://echa.europa.eu/sv/scip-database>

⁵⁴ <https://globalewaste.org/map/>

⁵⁵ <https://www.unep.org/topics/ocean-seas-and-coasts/ecosystem-degradation-pollution/wastewater/global-wastewater>

⁵⁶ https://www.oecd.org/en/publications/environment-at-a-glance-indicators_ac4b8b89-en/full-report/component-4.html#chapter-d1e3538-e4e6f18c26

Atmosphere: Air quality^{57 58 59} (GHG, Ozone-depleting substances, Non-GHG & Heavy metals) Water^{60 61}: Water Quality^{62 63 64 65} (Water parameters^{66 67}, Marine microplastic^{68 69}), Water Ecosystem Health⁷⁰, Water Resource Soil and Sediments: Soil health^{71 72 73 74}, Soil pollution^{75 76} (Soil parameters⁷⁷, Contaminated sites⁷⁸), Soil resource potential⁷⁷ Biota: Marine, freshwater, and terrestrial health (Concentration of mercury in fishes^{79 80}, % of sensitive species in rivers)
<i>4. Impact of chemicals and waste on the environment</i> Planetary Boundaries: Novel entities⁸¹, Climate change (IPCC indicators⁸²), Biosphere integrity^{83 84 85} (Biodiversity loss & Functional diversity), Biogeochemical flows disturbance (Eutrophication⁸⁶ (N&P)), Freshwater and Land system change, Ozone depletion, Ocean acidification & Atmospheric aerosols Ecosystem services^{87 88 89}, Triple Crisis⁹⁰, SDG⁴⁴
<i>5. Regulation and other types of responses</i> Regulatory: MEAs⁹¹ (Basel, Rotterdam and Stockholm conventions⁹², Minamata Convention⁹³, Montreal Protocol⁹⁴, UNFCCC⁹⁵, Kunming-Montreal Global Biodiversity Framework⁹⁶), PRTR⁹⁷, Globally Harmonized System of Classification and Labelling of Chemicals⁹⁸, etc. Safer alternatives: Green chemistry⁹⁹ and Sustainable chemistry⁹⁹ Sustainable Development Goals⁴⁴: e.g., SDG3, SDG6, SDG12, SDG14, SDG15

Table 2. List of chemicals and groups of chemicals typically considered to assess pollution or quality status of environmental matrices (atmosphere, water, soil, and sediments). Additionally, examples of biological indicators as proxies of chemical pollution are derived from different environmental matrices.

Examples of possible indicators/constituents

- ⁵⁷ <https://waqi.info/#/c/5.37/7.119/2.7z>
- ⁵⁸ <https://www.iqair.com/air-quality-map>
- ⁵⁹ <https://epi.yale.edu/>
- ⁶⁰ <https://water.europa.eu/marine>
- ⁶¹ <https://water.europa.eu/freshwater>
- ⁶² <https://sdg632hub.org/>
- ⁶³ <https://sdg6data.org/en/maps>
- ⁶⁴ <https://www.gapmaps.info/>
- ⁶⁵ <https://riskfilter.org/water/explore/map>
- ⁶⁶ <https://wedocs.unep.org/bitstream/handle/20.500.11822/40414/WQMAG.pdf>
- ⁶⁷ <https://statistics.gemstat.org/>
- ⁶⁸ <https://www.gpmarinelitter.org/>
- ⁶⁹ <https://experience.arcgis.com/experience/b296879cc1984fda833a8acc93e31476/>
- ⁷⁰ <https://oceanhealthindex.org/global-scores/>
- ⁷¹ <https://www.nature.com/articles/s43017-020-0080-8>
- ⁷² <https://www.nature.com/articles/s43017-020-0080-8/figures/4>
- ⁷³ https://environment.ec.europa.eu/topics/soil-and-land/soil-health_en
- ⁷⁴ <https://www.nrcs.usda.gov/conservation-basics/natural-resource-concerns/soils/soil-health>
- ⁷⁵ <https://openknowledge.fao.org/server/api/core/bitstreams/a5e315c3-e69f-4348-badf-5157e6382397/content>
- ⁷⁶ <https://www.unep.org/resources/report/global-assessment-soil-pollution>
- ⁷⁷ <https://data.apps.fao.org/glosis/>
- ⁷⁸ <https://www.commonforum.eu/>
- ⁷⁹ <https://oap.ospar.org/en/ospar-assessments/intermediate-assessment-2017/pressures-human-activities/contaminants/metals-fish-shellfish/>
- ⁸⁰ <https://www.amap.no/documents/doc/amap-assessment-2021-mercury-in-the-arctic/3581>
- ⁸¹ <https://pubs.acs.org/doi/10.1021/acs.est.1c04158>
- ⁸² https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf
- ⁸³ <https://map.unbiodiversitylab.org/earth>
- ⁸⁴ <https://riskfilter.org/biodiversity/explore/map>
- ⁸⁵ <https://www.bipindicators.net/>
- ⁸⁶ <https://gbf-indicators.org/metadata/headline/7-1>
- ⁸⁷ <https://biodiversity.europa.eu/europes-biodiversity/ecosystems/maes>
- ⁸⁸ <https://seea.un.org/>
- ⁸⁹ <https://www.ipbes.net/>
- ⁹⁰ <https://www.genevaenvironmentnetwork.org/resources/updates/international-geneva-tackling-the-triple-planetary-crisis/>
- ⁹¹ <https://www.informea.org/en>
- ⁹² <https://www.brsmeas.org/>
- ⁹³ <https://minamataconvention.org/en>
- ⁹⁴ <https://www.unep.org/ozonaction/who-we-are/about-montreal-protocol>
- ⁹⁵ <https://unfccc.int/>
- ⁹⁶ <https://www.cbd.int/gbf>
- ⁹⁷ <https://www.oecd.org/en/topics/monitoring-and-preventing-industrial-pollution.html>
- ⁹⁸ <https://unece.org/transport/dangerous-goods/ghs-presentations>
- ⁹⁹ <https://www.unep.org/topics/chemicals-and-pollution-action/circularity-sectors/green-and-sustainable-chemistry>

<i>Atmosphere</i>	Greenhouse gases (GHG)/Ozone Depletion Substances (ODS): Methane (CH ₄), Nitrous oxide (N ₂ O), hydrochlorofluorocarbons (HCFCs), hydrofluorocarbons (HFCs), Perfluorinated compounds (e.g. SF ₆), O ₃ Non-GHG: PM _{2.5} , PM ₁₀ , Ammonia (NH ₃), Carbon monoxide (CO), Nitrogen oxide (NO _x), Sulfur dioxide (SO ₂), Volatile organic compounds (VOCs), PAHs Heavy Metals
<i>Water</i>	Level 1: Oxygen, Phosphorus, Nitrogen, and Acidification Level 2: POPs (PCBs, PAHs, PFAS), CFCs (Chlorofluorocarbons), Agrochemicals, others
<i>Soil/Sediment</i>	Inorganic compounds: Non-metal (Cyanides, Ammonium (N forms), Sulfur) & Metal/Metalloids (Cadmium, arsenic, etc.) Organic: Halogenated Aliphatic (e.g. PFC (PFAS)), Halogenated Aromatic (e.g. DDT), Non-Halogenated Aliphatic (e.g. Ethane) & Non-Halogenated Aromatic (e.g. Benzene)
<i>Biota</i>	Fish, Birds, Marine Mammals (e.g., Fish contamination index ¹⁰⁰), Pollinators ¹⁰¹ (e.g., Bees and Butterflies mortality index), Birds ¹⁰² , Soil microbial activity ¹⁰³ , etc.

IV. Next steps

26. In terms of next steps, it is proposed that the task teams finalize the possible objective, scope and relevant indicators/data sets that could constitute the high-level indicators, taking into account the criteria for indicator acceptance¹⁰⁴. The task teams will consider further the possible form and the methodology to construct the HLI, that would be then tested using existing baseline information. The high-level indicators will be presented in a “factsheet”¹⁰⁵ for consideration by the International Conference, along with any other supporting information.
27. To support the work, further input will be sought from experts with relevant knowledge and background, amongst others in the construction of indicators, including through small group(s). Further regular task teams meetings will be held to discuss progress and seek input and guidance. As appropriate, task teams members will be invited to share views through additional survey calls regarding specific subjects throughout the development of the HLI composition and structure.

¹⁰⁰ <https://www.epa.gov/national-aquatic-resource-surveys/indicators-ecological-fish-tissue-contaminants>

¹⁰¹ jrc.ec.europa.eu/repository/bitstream/JRC122225/jrc122225_proposal_for_an_eu_pollinator_monitoring_final_version

¹⁰² <https://jncc.gov.uk/our-work/terrestrial-monitoring-schemes/>

¹⁰³ fao.org/fileadmin/user_upload/GSP/INSOP/INSOP_annual_meeting24/DAY3/5_Soil_pollution_monitoring_indicators

¹⁰⁴ Interim criteria to select indicators of the Global Framework on

Chemicals https://wedocs.unep.org/bitstream/handle/20.500.11822/47050/GFC_OEAHGMI.4_2-Thought_starter_on_criteria_05022025.pdf

¹⁰⁵ As per the Proposed Factsheet template for indicators of the Global Framework on Chemicals

https://wedocs.unep.org/bitstream/handle/20.500.11822/46981/GFC_OEAHGMI.3_3-Thought_starter_facsheet_for_indicators_11112024.pdf

Annex V

Workstream 3

I. Scope

1. At the second segment of the first meeting of the open-ended ad hoc group on measurability and indicators the Co-Chairs set out a proposed organization of work of the ad hoc group and mandated workstream 3 to work on the identification and assessment of indicators (either existing or under development) relating to specific economic sectors or themes of relevance to the Framework. The GFC Secretariat was tasked to lead the work of this workstream and to conduct an analysis building on existing efforts and work related to linkages between pollution from chemicals and waste and climate change, biodiversity loss, labour, health aspects, waste, finance, trade, innovation, and sustainable chemistry as well as relevant economic sectors with the scope of identifying indicators that could contribute to the measurability structure and complement the existing list of indicators in addressing the GFC targets.
2. The Secretariat was asked to initiate a scoping exercise and based on the assessment of its results, propose a way forward. The work under this workstream may need to be considered as an iterative and evolving process, pending decision by the International Conference related to the implementation programmes and issues of concern under the Framework.

II. Organization of work

3. In order to fulfil the objective of the mandate given to the workstream, the engagement of the task team with a wide range of expertise is crucial. Registration to the task team of workstream 3 opened after the second segment of the first meeting of the ad hoc group and, as of 9 April 2025, the number of stakeholders registered to the task team was 134 from different stakeholder groups (50 from NGO / civil society, 45 from Government/ Public sector, 14 from Private sector/ Industry, 15 from Academia/ research institute and 10 from IGO).
4. In view of the importance of stakeholder contribution to the work of the task team, the approach adopted by the Secretariat to initiate the work included as a first step to seek input from the stakeholders registered to the workstream. A questionnaire on “Identification and Assessment of Thematic and Sector-Specific Indicators” was launched in July 2024 with deadline for submissions originally fixed on 30 August 2024, and extended to 15 September 2024, to gather information on potential existing indicators for the measurability structure and on the work currently being undertaken in the development of new indicators relevant to chemicals and waste management.
5. After a preliminary analysis of the responses received to the questionnaire, a new survey seeking new contributions from stakeholders was launched in March 2025 (deadline for submissions was 18 April 2025) with the objective of identifying indicators that address more specifically GFC targets and meet its criteria.
6. The contribution of the task team on identification of indicators is also sought through task team meetings. A first task team meeting was held online on 9 April 2025 with the attendance of 50 participants. The objective of the meeting was to have a first insight into selected indicators relevant to industry sector and share views.

III. Progress of work

a) Surveys and task team meetings

7. The questionnaire on “Identification and Assessment of Thematic and Sector-Specific Indicators” consisted of 16 questions, organized into four sections covering a first section on stakeholder information and three sections dedicated to three different groups of indicators:
 - a. Indicators measuring the integration of safe and sustainable management of chemicals and waste into sustainable development decision making processes.

- b. Indicators measuring the implementation of the Global Framework on Chemicals in economic and industrial sectors.
- c. Development of new indicators.

The questionnaire received 19 submissions from different stakeholder groups of which, 10 from NGO/civil society, 3 from Industry/Private sector, and 6 from Government. The analysis of the responses is presented in the first report of workstream 3 “Questionnaire on thematic and sector-specific indicators relevant to the GFC and to the IOMC proposed GFC implementation programme - Results and preliminary analysis of the responses”¹⁰⁶ that was prepared by the Secretariat with the contribution of the task team and shared with the ad hoc group at its fourth meeting.

8. The new survey launched in March 2025 followed the same structure as the previous questionnaire, thus the questions were articulated with the same three groups of indicators. In this respect, more information was sought for the second group of indicators and questions in this section included the request to indicate which GFC targets the indicators in use by the respondents address and which criterion they meet. The analysis of the responses is ongoing.
9. The first task meeting involved the intervention of representatives from three different stakeholder groups: Industry, Public sector and NGO. The discussion focused on proposed indicators that may be relevant to the Framework.

b) Preliminary results

10. A few outcomes of the first report of workstream 3 are highlighted in the following paragraphs.
11. The surveys have pointed out that indicators measuring chemicals and waste management into sustainable development decision making processes (group a) of the questionnaire) are mostly indicators in use to measure progress in other Conventions and Agreements such as Biodiversity indicators, Basel indicators, IOMC indicators, and SDG indicators. A list of the indicators that were brought up by the respondents is given in the report (see table 1 at page 6 of the report¹⁰⁶).
12. In particular, the chemical industry has highlighted its commitment in working toward several SDGs, through its involvement in the Responsible Care Initiative (ICCA Responsible Care Key Performance Indicators), and aiming at improving safe chemicals management and strengthening environmental, health, safety, and security practices along the value chain. Indicators from the Global Reporting Initiative¹⁰⁷ (GRI) are also in use to measure gas emissions, water use, energy consumption etc. as well as specific ESG indicators including indicators related to chemicals management linked to safety, health and gender are being developed.
13. Collaboration between the private sector and NGOs is growing and involves assessment and measurement of companies’ chemical footprint (e.g. Chemical Footprint Project¹⁰⁸), chemical hazard assessments to identify chemicals of concern and the improvement of chemicals management with substitution of harmful chemicals with sustainable chemical substitutes (e.g. ChemFORWARD¹⁰⁹, The Roadmap to Zero Programme¹¹⁰), as well as utilization of chemical safety certifications (e.g. OEKO-TEX^{®111}), just to mention a few initiatives.
14. The investment sector evaluates private companies on their governance, management systems, certifications, emissions, health and safety performance, etc. using variety of existing reporting standards including recognized disclosure standards (GRI, SASB Standards¹¹², etc), and third-party benchmarking frameworks (Chemical Footprint Project Report, ChemScore¹¹³, Mind the Store Retailer Scorecard¹¹⁴, TNFD¹¹⁵ and TCFD¹¹⁶, SBTN¹¹⁷, etc.).

¹⁰⁶ GFC/OEAHGMI.4/3 “Report – Questionnaire on thematic and sector-specific indicators relevant to the GFC and to the IOMC proposed GFC implementation programme - Results and preliminary analysis of the responses”

¹⁰⁷ Global Reporting Standards, <https://www.globalreporting.org/>

¹⁰⁸ <https://chemicalfootprint.org/>

¹⁰⁹ <https://www.chemforward.org/>

¹¹⁰ <https://www.roadmaptozero.com/>

¹¹¹ <https://www.oeko-tex.com/en/>

¹¹² Sustainability Accounting Standards Board, <https://sasb.ifrs.org/standards/>

¹¹³ <https://chemscore.chemsec.org/>

¹¹⁴ <https://toxicfreefuture.org/retailer-report-card/>

¹¹⁵ Taskforce on Nature-related Financial Disclosures for biodiversity loss, <https://tnfd.global/>

¹¹⁶ Task Force on Climate-related Financial Disclosure for climate change <https://www.fsb-tcf.org/>

¹¹⁷ Science Based Targets Network, <https://sciencebasedtargetsnetwork.org/>

15. The preliminary investigation carried out through the questionnaire, the responses of which are presented and analysed in the first report of workstream 3, has suggested that there are several potential indicators (in use and in development) to be considered and assessed for their relevance to the GFC.
16. The presentations given at the first meeting of the task team (“Indicators relevant to the GFC in Chemical, Consumer goods, Cosmetics and Personal care Industry” from Kao Corporation, “Potential Sustainability Indicators for GFC D targets” from the German Environment Agency, and “The Chemical Footprint Project” from Clean Production Action) included proposed indicators potentially addressing in particular targets D of the GFC and are posted on the webpage of the first meeting¹¹⁸ of workstream 3. The complete list of indicators proposed by these stakeholders, in their submissions to the questionnaire, is detailed in the report of workstream 3.

IV. Next steps

17. The identification and analysis of indicators for the measurability structure will continue as an iterative process. Proposed indicators compiled in a database, will be assessed against the GFC criteria and factsheets will be completed for selected indicators (see Figure 1). The gap analysis carried out by workstream 1 in assessing which targets are fully addressed and which ones are partially addressed by the current list of indicators, will contribute to the evaluation of new indicators for the measurability structure.

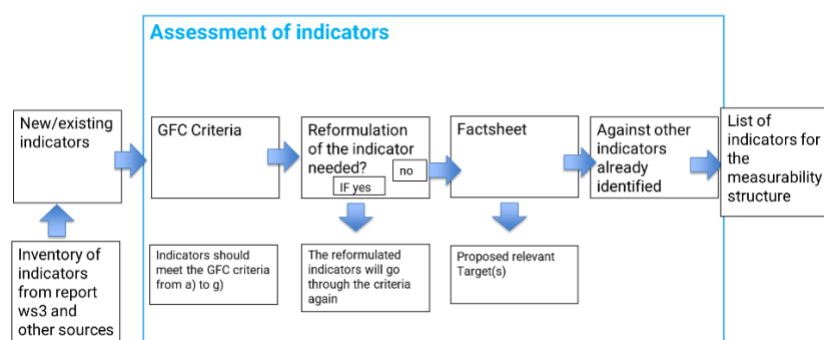


Figure 1: Assessment process of indicators

18. Task team meetings will be organized to engage stakeholders with discussions on indicators proposed for the measurability structure. Each task team meeting will be focused on a relevant theme and contributions (e.g. presentations, interventions, etc.) will be sought from participants.
19. Expert meetings and workshops will be organized. A limited number of stakeholders with expertise/knowledge and experience in, among others, indicators development, industry representatives, statisticians, to work on the identification of indicators.
20. The task team will reach out to more stakeholders, particularly from the private/industry sector to gather better insight on their processes and use of indicators to measure their progress in the implementation of the Framework.

¹¹⁸ First meeting of workstream 3

Annex VI

Provisional Measurability structure

Proposed measurability structure – 22 indicators (n.b. some indicators are repeated across different targets)				
Vision	<i>Our vision is a planet free of harm from chemicals and waste for a safe, healthy and sustainable future</i>			
Strategic objectives	A. Legal frameworks, institutional mechanisms and capacities are in place to support and achieve the safe and sustainable management of chemicals throughout their life cycle.			
Targets	A1			
Indicators for tracking progress in reaching targets	• (a) Hazardous waste generated per capita; and (b) proportion of hazardous waste treated, by type of treatment • Number of countries with a PRTR (implement international standards for PRTRs, including parties to the Kyiv Protocol on PRTRs, countries that implement OECD standards for PRTRs, or equivalent.) • Countries with controls for lead in decorative paint • Number of countries that have achieved core capacities for chemicals under the International Health Regulations • GHS Implementation • Number of countries with legislation in place to manage industrial and consumer chemicals • The number of Parties (Stockholm) with regulatory and assessment schemes for new pesticides and/or new industrial chemicals			
Targets	A2	A4	A6	A7
Indicators for tracking progress in reaching targets	• Number of countries using the Toolbox and its content to draft and adopt policies for the sound management of chemicals.	• Parties to the BC have reached an adequate level of administrative and technical capacity (in the form of Customs, police, environmental enforcement and port authorities, among others) to prevent and combat illegal traffic and judicial capacity to deal with cases of illegal traffic	• Number of countries with poison centres	• The number of Parties (Stockholm) with regulatory and assessment schemes for new pesticides and/or new industrial chemicals • Proportion of agricultural area under productive and sustainable agriculture
Strategic objectives	B. Comprehensive and sufficient knowledge, data and information are generated, available and accessible to all to enable informed decisions and actions.			
Targets	B3		B4	
Indicators for tracking progress in reaching targets	• Number of countries with a PRTR (implement international standards for PRTRs, including parties to the Kyiv Protocol on PRTRs, countries that implement OECD standards for PRTRs, or equivalent.) • Number of countries ratifying Aarhus Convention or the Escazu Agreement • (a) Hazardous waste generated per capita; and (b) proportion of hazardous waste treated, by type of treatment		• Number of countries with a PRTR (implement international standards for PRTRs, including parties to the Kyiv Protocol on PRTRs, countries that implement OECD standards for PRTRs, or equivalent.) • Number of countries that have achieved core capacities for chemicals under the International Health Regulations • GHS Implementation • Number of countries using the Toolbox and its content to draft and adopt policies for the sound management of chemicals.	
Targets	B6		B7	
Indicators for tracking progress in reaching targets	• GHS Implementation		• Changes in levels of the listed persistent organic pollutants in humans • Mortality rate attributed to unintentional poisoning (i.e. pollution and chemicals)	

Vision	Our vision is a planet free of harm from chemicals and waste for a safe, healthy and sustainable future			
Strategic objectives	D. Safer alternatives and innovative and sustainable solutions in product value chains are in place so that benefits to human health and the environment are maximized and risks are prevented or, where prevention is not feasible, minimized.			
Targets	D2	D5	D7	
Indicators for tracking progress in reaching targets	- Proportion of domestic and industrial wastewater flows safely treated (a) Hazardous waste generated per capita; and (b) proportion of hazardous waste treated, by type of treatment - National recycling rate, tons of material recycled (i.e. reduce waste)	Proportion of agricultural area under productive and sustainable agriculture	- Number of member States with national Occupational Safety and Health (OSH) profiles - Number of ratifications of up-to-date ILO Conventions related to chemical risks	

Strategic objectives	E. Enhanced implementation occurs through increased and effective resource mobilization, partnerships, cooperation, capacity building, and integration into all relevant decision-making processes.			
Targets	E1	E2	E3	E5
Indicators for tracking progress in reaching targets	- Number of ratifications of up-to-date ILO Conventions related to chemical risks - Number of parties to the Basel Convention that have developed and implemented national strategies, plans or programmes for reducing the generation and hazard potential of hazardous and other wastes - Number of parties to the Basel Convention that have developed and implemented national strategies, plans or programmes for hazardous waste minimization	- Number of programmes, projects or activities carried out by parties to the Basel Convention, jointly with other parties or together with other stakeholders (regional and international organizations, conventions, industry bodies, etc.), aimed at the environmentally sound management of priority waste streams that have been monitored and assessed to achieve this goal - Number of countries with a PRTR (implement international standards for PRTRs, including parties to the Kyiv Protocol on PRTRs, countries that implement OECD standards for PRTRs, or equivalent.)	Total amount of funding for developing countries to promote the development, transfer, dissemination and diffusion of environmentally sound technologies	Number of countries that have achieved core capacities for chemicals under the International Health Regulations