Overview of input received through Mentimeter at the second meeting of the task team, 23 January 2025

Background and introduction:

The task team on the development of the high-level indicator on the "global environmental burden attributable to chemicals and waste" held its second meeting on 23 January 2025 in an online setting[1]. Amongst others, the meeting considered the possible approach for the scope of HLI, as well as the elements constituting the HLI, and next steps to conduct the work. Participants were invited to share their perspectives during the course of the discussion through the Mentimeter platform. An overview of the responses received is presented below. A total of 71 stakeholders attended the Task Team meeting. Participants were invited to respond to questions related to the objectives, scope, and constituting elements of the HLI. All responses were provided anonymously.

Question 1. Agreement on the objectives of the HLI on the Global Environmental Burden

At the second Task Team meeting, the following four key objectives of the HLI were presented, developed based on the Global Framework on Chemicals context as well as input provided by the Task Team at the first meeting[2]:

- Demonstrate the impacts of chemicals and waste and show progress.
- Reflect trends, releases, and presence in the environment.
- Encourage and track response measures.
- Raise awareness, communicate, and engage with the broader public.

A *special m*ention was made of the need to link the environmental burden with health-related aspects. Stakeholders were asked to indicate whether they agreed with the objectives presented. A total of 24 attendees responded to Question 1. **Positive feedback** was obtained. Overall, 71% agreed with the presented objectives, while 29% agreed partially, and 0% disagreed.

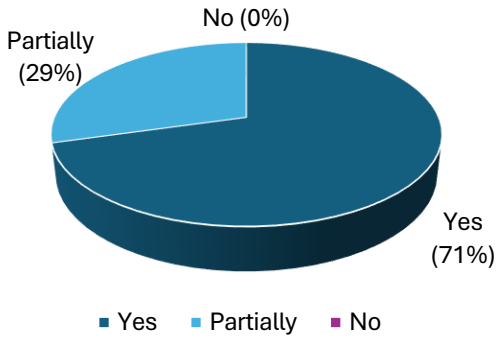

Figure 1. *Results expressed in percentage (Yes, Partially, and No) for the question "Do you agree with the key objectives?".*

Stakeholders were then asked to provide information about any aspects missing from the presented key objectives. A total of 25 stakeholders engaged in this question. Responses given by stakeholders were clustered according to the objectives presented when appropriate:

Objective 1: Demonstrate the impacts of chemicals and waste, and show progress.

[1] Second task team meeting webpage: https://www.unep.org/events/conference/oeahgmi-second-meeting-workstream-2-task-team-development-high-level-indicator
[2] First task team meeting webpage: https://www.unep.org/events/conference/oeahgmi-first-meeting-workstream-2-task-team-high-level-indicator-global

- *"with planetary boundaries important."*

Objective 2: Reflect trends, releases, and presence in the environment.

- *"Not sure if this is covered already, but basic information about which chemicals are used and their properties."*
- *"Trends in releases into the environment should be the priority"*
- *"Presence in the environment: should be taken into account after potential remediation - so actions taken to remediate should be integrated at some point"*

Objective 3: Encourage and track response measures.

- *"Progress on remediation/mitigation made by Innovation/industries"*
- *"International Cooperation: Foster collaboration between countries and international organizations to address global environmental challenges."*
- *"Number of actions taken to remediate and their effectiveness"*
- *"Sufficient financial resources for implementation"*

Objective 4: Raise awareness, communicate, and engage with the broader public.

- *"reflect age disaggregated data (eq, children's environmental health/vulnerable populations) - encourage, track, and "help prioritize" response measures"*

Some of the responses could not be directly linked to one of the 4 objectives. These responses were linked to the burden of disease/health aspects or were general observations.

Connection to the burden of disease/health aspects:

- *"Should be clear that this is the environmental lens to complement the health lens? And not count the same things between them"*
- *"Aspects that focus more on health-related aspects and the global burden of disease"*
- *"Impact among vulnerable groups such as youths and children"*

Considerations to take into account:

- *"Regional focus"*
- *"Multistakeholder collaboration"*
- *"Data availability and usability"*
- *"Mixture indicators considering potency and persistence"*
- *"Integration or separation of aspects (depends on goals)"*
- *"Practicality and reliability of data gathering/reporting"*
- *"Use official statistics methods as the basis for the development of the indicator(s) to make it comparable"*

No changes required:

- *"nothing really"*
- *"Think it is fine"*

Question 2. Agreement on the scope of the HLI on the Global Environmental Burden

The following dimensions for the scope of the HLI on the global environmental burden, developed based on the GFC context and the input provided by the task team at its first meeting, were presented to the group for consideration:

- **Economic, Social, and Consumer needs**
- **The life cycle of chemicals**

- **Presence/Concentration of chemicals in the environment**
- **Impacts on the environment**
- **Regulatory and voluntary measures**

Stakeholders were asked if any part of the scope should be altered. A total of 31 stakeholders engaged with this question, 71% agreeing that they would alter part of the scope, while 29% responded they would not.

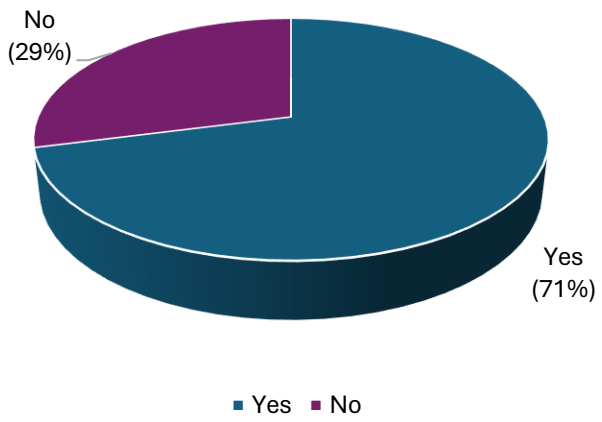

Figure 2. *Illustration of responses in percentage (yes or no) for the question "Would you alter any part of the presented scope?".*

On the topic of the scope, to understand what stakeholders would suggest to be altered, two follow-up questions were asked:

Question 2.1. Are any important dimensions of the scope missing?

Question 2.2. Should any dimension(s) be removed?

For Question 2.1, a total of 31 responses were received. These were clustered according to the different dimensions of the proposed scope. Additionally, some observations were clustered under "Connection to Burden of Disease/health aspects" and " Special section about scope - focus/prioritization & limitations". Two of the replies stated "no" and did not appear in any category.

Economic, Social, and Consumer needs

- *"Economic needs are not the only driving force related to economics. There are also dynamics and the improvement of profits that are a driving force"*
- *"5. behavioral changes in consumption"*

The life cycle of chemicals

- *"It is not only about chemical concentration in the environment, more, in general, it is about total number of chemicals on the market and that are used in (consumer) products that needed to be decreased."*

Presence/Concentration of chemicals in the environment (air, water, soil, biota)

- *"4. pollution from chemicals"*
- *"Interlink between Air, Water, and Soil should also be considered. For example, water runoff on soils could pollute rivers etc."*
- *"for 3: not just the presence/concentration of chemicals in the environment but also their impact (toxic potency), e.g. by measurable indicators such as in-vitro bioassays/NAMs"*
- *"Exposure"*
- *"Under "State", wastewater (treated/untreated) should be added"*

- *"Different, variety of DPSIR systems need to be considered for a wide diversity of biota and environment"*

Impacts on the environment

- *"cumulative effects, persistent mixture effects"*
- *"Aggregated Toxicity"*
- *"Need to consider long-lasting effects (persistence and accumulation) in the environment"*

Regulatory and voluntary measures

- *"Regulatory and voluntary measures can (and should) also be preventative, not just as mitigation."*
- *"No.5 For the regulatory and voluntary response measures --> Needs to indicate/focus on the impact of those measures, not on their existence."*
- *"There could be an additional focus on prevention rather than concentration in the environment"*
- *"Preventive approach should be prioritized"*
- *"Innovation and Research: Promote research and innovation to develop safer and more sustainable alternatives. "*
- *"Education and Awareness: Include initiatives to educate and raise public awareness about the impacts of chemicals and waste."*
- *"Equity and Environmental Justice: Ensure that mitigation measures benefit all communities, especially the most vulnerable."*

Observations related to the burden of disease/health aspects:

- *"In no.4. Health impact"*
- *"Human health impact"*
- *"Also in response to the remark on the global burden of disease- we would need an indicator(s) for the exposome /eco-exposome that is covering all chemicals' impact (that's the idea of the exposome approach"*
- *"for 4: environmental and human health impact (in terms of one health)- I know there is a specific commission for humans but that border should be broken and humans and environment be looked at together"*
- *"Include human health impacts, with a focus on gendered impacts."*

General observations about the scope

Comments highlighted, amongst others, the need for focus/prioritization as well as limitations in terms of the availability of information**:**

- *"Need clarity on how you see the parts of the DPSIR framework interacting"*
- *"No response, for the purpose of a HLI on environmental burden focus is needed. Provided overview helps to understand."*
- *"It should be very clear and cover all of the important aspects of the process"*
- *"Need to understand more before commenting- it's very aspirational and needs to be more grounded"*
- *"As environmental burden is caused by pollutants released into the environment or presence of pollutants, it's good to focus on those, rather than trade, production and use."*
- *"This is the scope of the typical chemical/regulatory cycle, but should it be the scope of the HLI? Will it be sensitive to progress on the objectives and targets of the GFC or a report on the state of env"*
- *"This is a HLI and shouldn't be in isolation from all the supporting lower-level indicators - some of the suggested scope may be covered already in the other indicators"*

- *"Anthropogenic releases were mentioned, what about the releases due to Climate Change?"*
- *"The categories are partially overlapping"*
- *"Only production, trade, and releases can or would be feasible for governments to collect and report data on. Other dimensions beyond the capacity of stakeholders at a systematic level."*

For Question 2.2, a total of 14 responses were received. Of the 14 responses, five stated that "no" dimensions should be removed. The remainder 11 responses highlighted, amongst others, the need for further focus/prioritization, considerations to be taken, and removal of dimension(s):

Need to further focus/prioritize the proposed scope sections:
- *"A prioritization will be useful"*
- *"Life cycle is complicated to assess at a high level needs more refined definition"*
- *"All the dimensions are part of the 'cycle', but need to consider if they all need to be measured for the HLI"*
- *"focus would likely be good so then some dimensions will need to be removed even if it "hurts", perhaps focus on showing actual improvement of certain env status due to SMC e.g. bee population."*
- *"The difference between the categories "pressure" and "driving force" is somehow unclear - or is it "push" and "pull"?"*

Considerations about each dimension's weight and key elements:
- *"Generally no, but the relative weight of dimensions may be substantially different for chemicals and environment."*
- *"The amount of pollutant emissions and the presence of pollutants in the environment are the key. Not only releases but toxicity-weighted releases are available, which can show risk to the env."*
- *"Toxic potency and mixture effects. We have more and more diverse chemicals, albeit at lower concentrations. They all act together, hence there must be a toxicity-based holistic indicator."*

Removal of dimension(s):
- *"Only no 2 (lifecycle of chemicals/ anthropogenic production, trade, and releases) should be retained as only that will be realistically reportable by governments globally."*

Question 3. Constituting elements of the different dimension(s) of the HLI

During the Task Team meeting[1], examples of sources of information were presented that could be considered as constitutive elements of the different potential dimensions(s) of the HLI. Afterward, stakeholders were invited to share key information/databases, or gaps that exist for each dimension mentioned.

a) For the proposed dimension on the "**Life cycle of chemicals"** (which includes extraction, production, use/consumption, trade, and disposal/waste), a total of 16 responses were provided.

Key information/databases:
- *"EU Reach, UK Reach and other frameworks"*
- *"Approx. 50 National PRTRs with data on releases of chemicals and transfers of waste."*
- *"Currently GRI is being replaced in the EU reporting by the ESRS implementation. Specifically, chemical lifecycle GRI, SASB include certain indicators."*
- *"<3 >global PRTR"*

[3] *https://www.oecd.org/en/topics/monitoring-and-preventing-industrial-pollution.html*

- *"Production volume and types of chemicals via chemical registration systems in each country"*
- *"Industry Unions - their annual reports"*
- *"National Frameworks"*
- *"Potential sources csrd, eu csddd, biodiv databases"*
- *"UNSD/UNEP Questionnaire on Environment statistics - waste section"*
- *"Other MEAs such as Montreal Protocol or Global Biodiversity Framework."*
- *"Key: Production and releases including PRTR or other sources."*

Gaps:
- *"Gaps: transparency of ingredients along the value chain"*
- *"Gaps: Production of Chemicals"*
- *"There are many gaps. Even for those that are mentioned there are no results in all of them for a chemical. Should a group of sentinel chemicals be considered?"*
- *"This is the weakest area - life cycle information is not recorded nor expected for the vast majority of chemicals. Huge gaps in understanding. Might have limited production/sales data available"*
- *"Gaps: Use, substance flow, waste stream, emission factors."*

Others:
- "*Check whether the industry has relevant info available."*

b) For the proposed dimension on the "**Presence/Concentration of chemicals in environmental matrices**" (including air/atmosphere, water, soil, and biota), a total of 23 responses were provided.

Key information/databases:
- *"Global Partnership on Plastic Pollution and Marine Litter (GPML)"*
- *"Databases of the regional treaty OSPAR"*
- *"HBM4EU"*
- *"At a regional level, there is also the co-operative program for monitoring and evaluation of the long-range transmission of air pollutants in Europe: European Monitoring and Evaluation Programme' = EMEP"*
- *"eco-toxicity weighted releases to air and water are available, which may be able to relate to the presence of chemicals in environmental matrices."*
- *"National and regional monitoring programs"*
- *"Regional"*
- *"Reports on Pollutions"*
- *"Potential sources: GIS Systems, drones with sensory equipment plus Al"*
- *"Regional data is essential as there are transboundary movements of products and waste leading to contamination even in cases of regulations existing in some countries."*
- *"National Health Laboratories are also gathering data periodically"*

Proxies:
- *"Residues of agrochemicals in beebread"*
- *"Testing of body fluids such as blood, breast milk, and others can be included."*
- *"The Residual Concentration of Chemicals in Food could be a possibility to gather more data"*

Gaps:
- *"Environmental monitoring will capture persistent chemicals or final transformation products but not reactive chemicals."*
- *"Most governments are not collecting comprehensive data on chemicals in the environment, and their capacity to do so is doubtful."*

Other observations:

- *"Important to understand the coverage of the type of chemicals and region/locations are very limited for any existing global monitoring programs compared to the whole range of chemicals in the globe."*
- *"Governments integrating collecting such data is essential to generate national data."*
- *"Not sure where this fits, but information about the monetary value of the chemical and pharmaceutical sector is relevant information. This was for example used in the Global Chemical Outlook reports."*
- *"Create synergies with EU indicator dashboard"*

- *"Mixture indicators as they are used in academia already for water quality assessment, e.g. effect-based trigger values for in vitro assays, that could capture all chemicals in a mixture"*
- *"use and validation of models simulation of chemicals behavior on the environment"*
- *"To improve risk management, need to think about connecting environmental levels to what is responsible for the presence (where are the releases, from what uses, breakdown) and where RM should be targeted"*

c) For the proposed dimension of "**Impacts on the environment"**, a total of 14 responses were provided.

Key information/databases:
- *"OPCW data reports"*
- *"UNCCD SDGs of course (multiple indicators on ecosystems health)"*
- *"Synergies with the planetary boundaries assessment"*
- *"Potentially Affected Fraction (PAF) using SSD may be more realistic for chemicals biodiversity loss"*
- *"Not-for-profit organizations are also producing reports with data*
- *"can use the GHS classification of chemicals help?"*

Gaps:
- *"While climate change, biodiversity loss, etc have a chemical dimension, it is difficult to understand how progress on the framework with results in a measurable response linked to chemicals under these"*
- *"Data and monitoring on impacts that are concretely attributable to chemicals in the environment or releases of chemicals is very limited, and government's capacity to collect data is doubtful"*
- *"Gap: data for root cause analysis. Important to not confuse correlation with causes..."*

Considerations:
- *"Mixture effect indicators"*
- *"Ecotoxicity weighted releases to the environment can contribute to measure the impacts on the environment."*
- *"How to put linkages between chemicals and waste and listed examples from biodiversity to climate change?"*
- *"Parameters to agree on how to attribute impact to chemicals would need to be agreed amid high chem industry claims of non-attribution to measured impacts. V political"*
- *"Health: DALY / excess death may be available"*

d) For the proposed dimension on "**Regulatory and Response Measures »**, a total of 11 responses were provided.

Key information/databases:
- *"VNRs maybe but could be a long shot"*

- *"National Resource taxes"*
- *"GHS classification (in EU also CLP)"*
- *"The International Sustainable Chemistry Collaborative Centre (ISC3) has some resources and data."*
- *"Initiatives, NGOs"*

Suggestions:

- *"These should not be measured in this HLI, and should be captured in granular indicators for individual targets."*
- *"What some countries are regulating due to ecological concerns provides an indication of what to potentially track as e.g. sentinel substances for a HLI"*
- *"This needs to have a multistakeholder approach as several NGOs are working to develop regulatory measures."*
- *"Could be covered by national/regional/voluntary reporting to the GFC indicators"*
- *"The Global Chemical Outlook report includes information about the economic value of the chemical industry (including pharmaceuticals). This type of information should also feed in somewhere."*

Limitations/Considerations:

- *"Making a measurable indicator for this section would be a challenge."*

Question 4. Possible format of the High-level indicator

Regarding the way to display the HLI, stakeholders were invited to indicate what could be from their perspective a useful way to showcase the results of the HLI. Several options were proposed, and multiple-choice responses were possible. A total of 21 participants engaged in this question. In general terms, responses indicated that the HLI should include different types of information, with an emphasis on visual elements (e.g., graphics, infographics, geographical data).

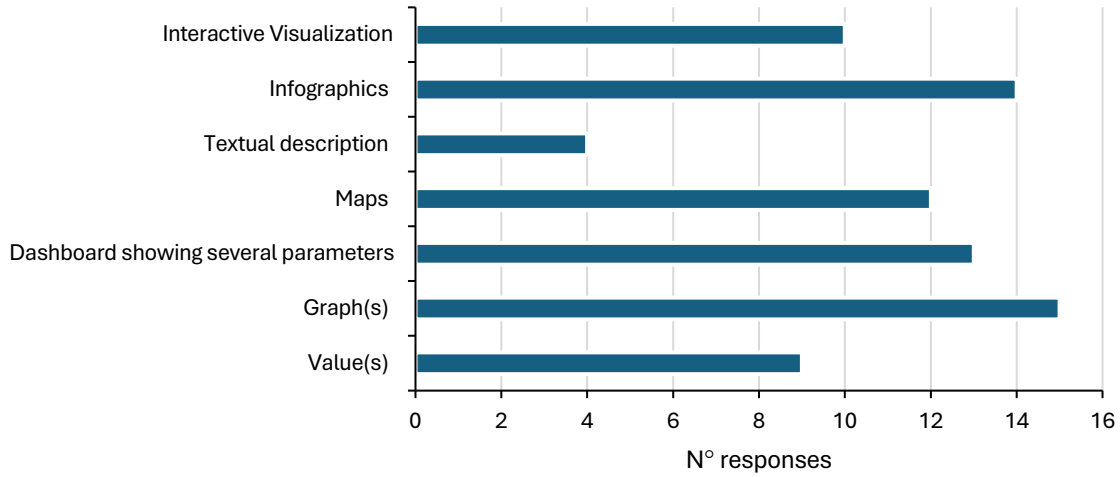

Figure 3. *Responses to the question "What could be from your perspective a useful way to showcase the results of the HLI?" where multiple choice was allowed.*

Question 5. Final observations

Stakeholders were invited to provide any other type of suggestions regarding the HLI. A total of 6 further suggestions were made:

- *"YouTube movie"*
- *"Important to incorporate multiple stakeholders"*

- *“AI bot Incorporate local NGOs data”*
- *“Numerical data should underpin all metrics, with possible aggregation if feasible. Avoid narrative reporting by stakeholders for HLIs”*
- *“It is crucial to promote interaction between the GFC and the future Science-Policy Panel on Chemicals, Waste, and Pollution Prevention.”*
- *“Need to decide b/w broad "state of the environment" report that may not link as directly to the progress of the specific aspects of the GFC, but supports the need for it. VS pragmatic subset of trends”*