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Third meeting of the intersessional process considering the Strategic Approach and sound management of chemicals and waste beyond 2020

Bangkok, Thailand, 1-4 October 2019

Item 4 of the provisional agenda[1]

Development of recommendations for consideration by the fifth session of the Conference regarding the Strategic Approach and the sound management of chemicals and waste beyond 2020

Update by the United Nations Environment Programme on relevant work undertaken in response to United Nations Environment Assembly (UNEA) Resolution 4/8

Note by the secretariat

The secretariat has the honour to circulate, in the annex to the present note, an update by the United Nations Environment Programme on relevant work undertaken in response to United Nations Environment Assembly (UNEA) Resolution 4/8. The report presented in the annex has not been formally edited by the secretariat.

[1] SAICM/IP.3/1

Annex

Update by the United Nations Environment Programme on relevant work undertaken in response to UNEA Resolution 4/8

Introduction

At the fourth session of the United Nations Environment Assembly (UNEA-4) (Nairobi, Kenya, 11-15 March 2019), delegates adopted Resolution 4/8 on the sound management of chemicals and waste. Among others, the Resolution contains mandates for the United Nations Environment Programme (UNEP) to prepare:

1) manuals on green and sustainable chemistry (see page 3);
2) a report on relevant issues where emerging evidence indicates a risk to human health and the environment (see page 13); and
3) an assessment of options for strengthening the science-policy interface at the international level for the sound management of chemicals and waste (see page 18).

While the three documents are being prepared in response to mandates received from UNEA, the topics are also being discussed in the context of the intersessional process considering the Strategic Approach and sound management of chemicals and waste beyond 2020. This information document therefore seeks to update stakeholders participating in the intersessional process regarding the approach to be taken in responding to the mandates. Relevant background information, workplans, draft outlines, and initial lists of references are also provided.

Specifically, the Resolution requested the Executive Director, subject to the availability of resources and, where appropriate, in cooperation with the member organizations of the Inter-Organization Programme for the Sound Management of Chemicals, to:

- Synthetize UNEP's analysis of best practices in sustainable chemistry into manuals on green and sustainable chemistry, in consultation with relevant stakeholders, by UNEA5, and to continue the work on a holistic approach for the sound management of chemicals and waste in the long term, taking into account both the importance of the sound management of chemicals and the potential benefits of chemicals for sustainable development;
- Prepare a report by 30 April 2020 on relevant issues where emerging evidence indicates a risk to human health and the environment identified by SAICM, the GCO and under sub-paragraph (e) above[2], including an analysis of existing regulatory and policy frameworks and their ability to address these issues towards the achievement of the 2020 goal, in particular for lead and cadmium; and
- Prepare by 30 April 2020 an assessment of options for strengthening the science-policy interface at the international level for the sound management of chemicals and waste, taking into account existing mechanisms, including under UNEP, and relevant examples in other areas, in order to maximise cost-effectiveness, make best use of new technologies, track progress and improve implementation of relevant multilateral environmental agreements at the national level, and to make it available for consideration by all stakeholders prior to ICCM-5.

This information document contains draft concept notes addressing each of the three mandates.

[2] Subparagraph (e) reads as follows: Follow trends in the design, production, use and release of chemicals and the generation of waste in order to identify issues of concern for future editions of the Global Chemicals Outlook and the Global Waste Management Outlook and catalyse sound management actions;

1) Preparation of manuals on green and sustainable chemistry

Advancing the sustainability of chemistry and a long-term holistic approach for the sound management of chemicals and waste

In response to Resolution 4/9 on Sound Management of Chemicals and Waste, adopted at the fourth session of the United Nations Environment Assembly

Draft concept note (September 2019)

Background

Over the past decades, the concepts of green and sustainable chemistry have gained significant momentum and attention in light of their potential to advance safer chemistry and contribute towards achieving the Sustainable Development Goals (SDGs). While the concept of "green chemistry" is elaborated through the well-known 12 principles that focus on safer and less resource intensive chemistry, "sustainable chemistry" is evolving as a more holistic complementary concept. This creates opportunities to foster a better common understanding, including on the relationship between green and sustainable chemistry.

In 2019, the United Nations Environment Programme (UNEP) prepared the 'Analysis of Stakeholder Submissions on Sustainable Chemistry Pursuant to UNEA Resolution 2/7'[3], which was made available as an information document for the fourth session of the United Nations Environment Assembly (UNEA-4) (Nairobi, Kenya, 11-15 March 2019). The report finds that:

- the concept of sustainable chemistry is widely used by stakeholders around the world;
- sustainable chemistry cases submitted address various stages of the chemicals and waste life cycle and illustrate the role of sustainable chemistry in achieving the SDGs;
- stakeholders have a broad understanding and interpretation of sustainable chemistry and welcome further work to facilitate a common understanding; and
- further steps in the context of the intersessional process to prepare recommendations regarding the Strategic Approach and the sound management of chemicals and waste beyond 2020 could include development of practical guidance on sustainable chemistry.

The Global Chemicals Outlook II (GCO-II)[4], published by UNEP in 2019, lists among the implementation of actions up to and beyond 2020 to integrate green and sustainable chemistry in education, research, and innovation policies and programmes. It finds that:

- "green chemistry" focuses on reducing or eliminating the use or generation of hazardous substances in the design, manufacturing and application of chemical products, guided by the well-known 12 green chemistry principle;
- "sustainable chemistry" is evolving as a more holistic complementary concept which embraces green chemistry;
- recent discussions have expanded the sustainable chemistry concept in a direction where chemistry is contributing to sustainable development across its three dimensions, i.e. environmental, social and economic;

[3] UNEP/EA.4/INF.20: Analysis of Stakeholder Submissions on Sustainable Chemistry Pursuant to UNEA Resolution 2/7: Note by the secretariat

[4] UNEP. (2019). Global Chemicals Outlook II – From Legacies to Innovative Solutions: Implementing the 2030 Agenda for Sustainable Development.

- further international work may be valuable to develop practical guidance on sustainable chemistry which could be widely promoted alongside green chemistry principles; and
- green and sustainable chemistry education and innovation are drivers of change and can be scaled up through enabling policies, reaping the potential benefits of chemistry innovations.

In the ongoing intersessional process, various stakeholders have referenced and/or highlighted the relevance of green and sustainable chemistry for chemicals and waste beyond 2020 and sustainable development. Moreover, the co-chairs' paper[5] prepared for the third meeting of the Open-Ended Working Group (OEWG3) of the International Conference on Chemicals Management (ICCM) features a strategic objective that "benefits are maximized and risks … prevented through innovative and sustainable solutions and forward thinking", referring in the considerations, among others to green and sustainable chemistry. Green and sustainable chemistry thus hold significant potential to form a central pillar of a long-term holistic approach for the sound management of chemicals and waste.

Mandate

In 2019, Resolution 4/8[6], adopted by UNEA-4, welcomed the analysis of best practices in sustainable chemistry and recognized the value of developing a better understanding of sustainable chemistry opportunities globally.

The resolution further requested the Executive Director, subject to the availability of resources and, where appropriate, in cooperation with the member organizations of the Inter-Organization Programme for the Sound Management of Chemicals (IOMC), to synthetize UNEP's analysis of best practices in sustainable chemistry into manuals on green and sustainable chemistry, in consultation with relevant stakeholders, by UNEA5, and to continue the work on a holistic approach for the sound management of chemicals and waste in the long term, taking into account both the importance of the sound management of chemicals and the potential benefits of chemicals for sustainable development.

Proposed approach in developing the manuals

The use of the term "manuals" in the UNEA-4 mandate suggests an interest to produce deliverables and outputs which can be of practical value for actors engaged in green and sustainable chemistry and seeking to contribute towards sustainable development. Equally relevant, by using a plural in the mandate ("manuals"), more than one manual may be prepared. Ideally, and in line with the mandate, the synthesis of the analysis of best practices in sustainable chemistry into manuals on green and sustainable chemistry could be used to derive common elements and characteristics of green and sustainable chemistry. The following section briefly outlines how the guidance provided by UNEA-4 may be taken forward and operationalized.

Conceptual framework

An initial review of the cases submitted pursuant to the UNEA-2 resolution and of the broader literature reveals a plethora of concepts are associated with green and sustainable chemistry. This reveals diversity in interpretations, but also may create confusion, as recently highlighted by the US Government Accountability Office[7].

To help structure an analysis and development of manuals, the various concepts used in the green and sustainable chemistry literature may be grouped according to several themes, closely linked with each other:

[5] SAICM/OEWG.3/4 - Paper by the Co-Chairs of the intersessional process on the Strategic Approach to International Chemicals Management and the sound management of chemicals and waste beyond 2020

[6] UNEP/EA.4/RES.8

[7] United States Government Accountability Office. (2018). Chemical Innovation – Technologies to Make Processes and Products More Sustainable.

1. The **objectives** green and sustainable chemistry seek to achieve (minimize chemicals hazards, maximize resource efficiency, advance circularity, achieve sustainable production and consumption etc.);
2. **design areas** to achieve the objectives (e.g. green design, green engineering design, sustainable product design etc.);
3. relevant sustainability **metrics, assessment and reporting tools** that can be used to assess, monitor and communicate knowledge about the performance of innovations and initiatives (life cycle assessment, green and engineering metrics, chemical footprint indicators, certification schemes, sustainability reporting initiatives etc.); and
4. **enabling policies** to advance green and sustainable chemistry (basic protection standards, research and innovation, information and transparency, human rights etc.)

Annex A provides a conceptual framework and how these themes are linked to each other.

Objective and target audiences of the manuals

The objective of the manuals could be to inspire and guide research, policymaking and private sector action to advance chemistry that is fully compatible with and supports the implementation of the 2030 Agenda for Sustainable Development. The manuals could target policymakers, the private sector (incl. the chemical industry, downstream sectors, retailers, investors, entrepreneurs), academia, and civil society. Special considerations to make them relevant for developing countries could be given. Given the diversity of stakeholders addressed, the manuals would not seek to provide detailed technical guidance, but rather provide an overall point of reference and orientation for stakeholders. They would thus serve as a type of checklist. The manuals would therefore be concise, relying as much as possible on simple, non-technical language that is accessible to a wide audience.

Scope and format

As a starting point, a framework manual would be developed, taking into account insights from the cases submitted by stakeholders, the broader literature, and the above conceptual framework. The framework manual could be complemented by a series of more specific manuals, each of which could be dedicated to a specific aspect of green and sustainable chemistry along the themes identified above (e.g. on advancing circularity, on green engineering design, on life cycle assessment, on links with human rights). Specific manuals would start with a brief elaboration on the issue, be illustrated by examples, and feature relevant literature references.

The manuals could draw to a significant extent, and as much as possible, on existing work in the area of green and sustainable chemistry. Thus, rather than writing manuals from scratch, pointers and references could be provided to relevant existing documentation, together with annotations and guidance. Complementing the cases featured in the Analysis of Stakeholder Submissions on Sustainable Chemistry Pursuant to UNEA Resolution 2/7, further examples and case studies in the fields of green and sustainable chemistry may also be gathered. In addition, relevant literature is consulted to validate concepts associated with green and sustainable chemistry.

Engagement of experts and stakeholders

Throughout the process, the IOMC participating organizations and relevant secretariats of Multilateral Environmental Agreements (MEAs) will be engaged on a regular basis (input to concept note, draft framework manual etc., participation in relevant meetings, request to provide references and case studies etc.). Moreover, expert and stakeholder consultations will be undertaken with a view to gathering and synthesizing the diverse experience and perspectives from governments, civil society, industry/private sector, academia, and inter-governmental organizations. This will include, but not be limited to, SAICM stakeholders as well as

stakeholders identified through partners' networks (including project partners and those that contributed to the development of the GCO-II). Efforts will be made to engage relevant stakeholders from various economic and other sectors. The stakeholder consultations may take various forms, such as calls for information, requests for input on the draft manuals and participation in relevant meetings or workshops.

The third and fourth meetings of the intersessional process (scheduled for October 2019 and March 2020 respectively) will provide important opportunities for stakeholder input and consultations. Subject to availability of resources, a global workshop is being considered for the second quarter of 2020 in order to gather input to the draft framework manual from experts and stakeholders in governments, intergovernmental organizations, civil society, the private sector, and academia. This will include participants from all regions.

Workplan

The following outlines the envisaged workplan for activities to be undertaken until UNEA-5, subject to the availability of resources.

Phase 1: Development of a concept note and initial stakeholder consultation (July-Dec 2019)

The first phase towards the preparation of manuals on green and sustainable chemistry will focus on the development of a methodology for the preparation of the manuals and seeking initial engagement of stakeholders to ensure various perspectives are considered as well as the usability of the manuals. As part of this phase, desk research is being undertaken to further consolidate and strengthen the knowledge basis for the preparation of manuals. An initial bibliography is provided in Annex B.

Phase 2: Preparation of a framework manual (Dec 2019 - Jun 2020)

Building upon the methodology developed in phase 1, phase 2 will focus on the preparation of the *Framework manual on advancing the sustainability of chemistry through green and sustainable chemistry*. A first draft will be made available to interested stakeholders for comments in the first quarter of 2020 and will be finalized following discussions at a global workshop planned for the second quarter of 2020. The final draft will also be made available in time for ICCM-5, scheduled for October 2020.

Phase 3: Preparation of manuals on specific topics and finalization of the manuals on green and sustainable chemistry (Jun 2020 - Feb 2021)

Through a consultative process and as part of the preparation of the methodology (phase 1) and the framework manual (phase 2), topics and themes for which specific manual will be prepared will be identified. It is anticipated that a small number of priority manuals will be prepared in advance of ICCM5, while other manuals will be prepared in time for UNEA-5

Taking into account further input received at ICCM-5 and subsequent final consultations, the framework and the specific manuals will be consolidated to form the manuals on green and sustainable chemistry and will be submitted as information/working document to UNEA-5.

Dissemination and outcome

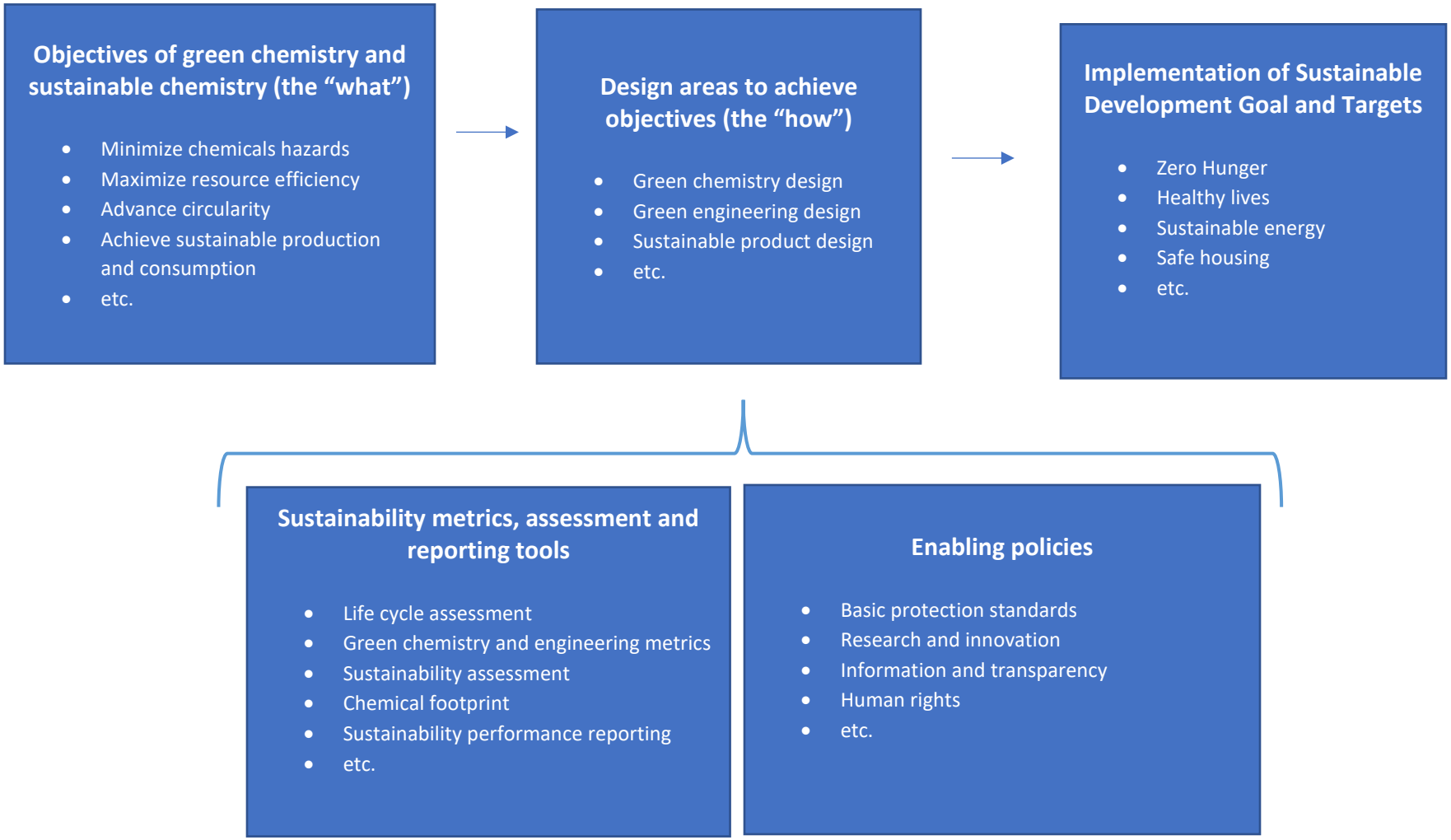
The various outputs will be presented as information/working document for relevant meetings of the intersessional process as well as UNEA-5. They are also expected to inform the ongoing discussions on a long-term holistic approach for the sound management of chemicals and waste in the context of the intersessional process as well as UNEA. In the long-term, they will seek to contribute towards sustainable development by ensuring that the benefits of chemistry are maximized and risks prevented through innovative and sustainable solutions and forward thinking by providing a point of reference for policy-makers and academia as well as entrepreneurs and innovators in the chemical industry and downstream sectors.

Summary Workplan

Activity	2019		2020				2021
	Q3	Q4	Q1	Q2	Q3	Q4	Q1
Expert and stakeholder consultations							
Phase 1							
Development of a concept note							
Initial expert and stakeholder consultation							
Phase 2							
Development of draft framework manual							
Global stakeholder workshop							
Development of final framework manual							
Phase 3							
Development of manuals on specific topics							
Final stakeholder consultations and ICCM-5							
Finalization of manuals and UNEA 5							

Annex A: Conceptual framework

Advancing the sustainability of chemistry through green and sustainable chemistry



Annex B: Initial annotated bibliography

The following provides an initial list of relevant documentation. Desk research is ongoing to identify additional relevant documentation, including with regard to other clusters.

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2) Preparation of a report on relevant issues where emerging evidence indicates a risk to human health and the environment

In response to Resolution 4/9 on Sound Management of Chemicals and Waste, adopted at the fourth session of the United Nations Environment Assembly

Draft concept Note (September 2019)

Background

Various bodies and mechanisms exist at the national and international level to identify emerging issues relevant for the sound management of chemicals and waste, including the nomination of emerging policy issues (EPIs) and other issues of concern under the Strategic Approach to International Chemicals Management (SAICM): lead in paint, chemicals in products, hazardous substances within the life cycle of electrical and electronic products, nanotechnology and manufactured nanomaterials, per- and polyfluoroalkyl substances and the transition to safer alternatives, endocrine disrupting chemicals, environmentally persistent pharmaceutical pollutants, and highly hazardous pesticides.

Responding to the mandate received through the second session of the United Nations Environment Assembly (UNEA-2), Resolution 2/7[8], the Global Chemicals Outlook II (GCO-II) identified other issues where emerging evidence indicates a risk to human health and the environment using a criteria-based approach, whereby the identification of recent assessments and regulatory risk management actions taken by public bodies on a chemical (or group of chemicals) was used as a starting point. The criteria used resulted in the identification of issues for the following chemicals or groups of chemicals: arsenic, bisphenol A, glyphosate, cadmium, lead, microbeads, neonicotinoids, organotins, polycyclic aromatic hydrocarbons, phthalates and triclosan.

While, for some of these, concerns had existed for a long time (e.g. regarding lead, which continues to be widely used in applications other than paint), recent regulatory action has been taken in several countries in light of new evidence on lower thresholds for adverse effects or additional evidence related to specific uses. In other cases, additional or new evidence has emerged in recent years, prompting regulatory action (e.g. on microbeads). In yet other cases, some countries have taken precautionary action based on existing knowledge. Further activities undertaken in response to the mandate received through UNEA-4 resolution 4/9[9] subparagraph (e) may identify additional issues with emerging evidence of risk.

The GCO-II notes that stakeholders could find value in further exploring methodologies that facilitate a more systematic identification of future priorities at the international level and highlights the value of an improved science-policy interaction in this context. The report raises a number of questions of potential relevance for further consideration by stakeholders, such as which methodologies and criteria a more systematic identification of issues could rely on.

Mandate and objective

Resolution 4/9 on Sound Management of Chemicals and Waste, adopted by UNEA4 (Nairobi, Kenya, 11-15 March 2019), requested the Executive Director subject to the availability of resources and, where appropriate, in cooperation with the member organizations of the Inter-Organisation Programme for the Sound Management of Chemicals (IOMC), to prepare a report by 30 April 2020 on relevant issues where emerging evidence indicates a risk to human health and the environment identified by SAICM, the GCO and under sub-paragraph (e) above[10], including an analysis of existing regulatory and policy frameworks and their ability to address these issues towards the achievement of the 2020 goal, in particular for lead and cadmium.

[8] UNEP/EA.2/Res.7.

[9] UNEP/EA.4/RES.8.

[10] (e): Follow the trends in the design, production, use and release of chemicals and the generation of waste in order to identify issues of concern in future Global Chemicals and Waste Management Outlooks and catalyse sound management actions;

The report on relevant issues where emerging evidence indicates a risk to human health and the environment will be presented as information/working document for UNEA-5 as well as relevant meetings of the intersessional process to prepare recommendations regarding the Strategic Approach and the sound management of chemicals and waste beyond 2020. The report seeks to strengthen the knowledge base and thus help facilitate informed decision-making to address the relevant issues by governments, industry, civil society and academia.

Proposed approach in preparing the report

Scope

The report will feature the following substantive areas (further details provided below):

- An assessment of progress made by relevant stakeholders in addressing the EPIs and other issues of concern identified under SAICM, including an analysis of existing regulatory and policy frameworks and their ability to address these issues.
- An overview of relevant information on the 11 chemicals/groups of chemicals (arsenic, bisphenol A, glyphosate, cadmium, lead, microbeads, neonicotinoids, organotins, polycyclic aromatic hydrocarbons, phthalates and triclosan) for which according to the GCO-II emerging evidence indicates a risk, including an analysis of existing regulatory and policy frameworks and their ability to address these issues.
- Considerations relevant for the identification of chemicals and waste management priorities at the international level

Relationship with ongoing work under SAICM and the intersessional process

The report seeks to complement, rather than duplicate ongoing work in the context of SAICM and the intersessional process.

First, the section covering the assessment of progress made by relevant stakeholders in addressing the EPIs and other issues of concern identified under SAICM will be distinct from the progress reports prepared by the SAICM Secretariat[11]. The latter feature a description of the activities called for by the ICCM, together with summaries on progress achieved as developed from input received from the respective lead organizations. Similarly, the report on progress in the implementation of SAICM[12] relies on information obtained through stakeholder submissions. The here discussed section is a distinct effort in that it seeks to:

- assess progress vis-a-vis the options for action featured in the GCO-II for each EPI and other issue of concern;
- rely on sources of information beyond the input from the respective lead organizations; and
- systematically analyze existing regulatory and policy frameworks and their ability to address these issues; and
- provide relevant policy insights, as appropriate.

Second, the section covering the considerations relevant for the identification of chemicals and waste management priorities at the international level seeks to complement, rather than duplicate the ongoing discussions on addressing issues of concern, as most recently captured in the co-chairs paper on this topic[13]. The co-chairs paper contains a proposal on text for the definition, criteria and possible modalities for adopting issues of concern; it thus represents a specific proposal on how to address issues of concern.

[11] SAICM/ICCM.4/9 Emerging policy issues and other issues of concern and SAICM/OEWG.3/6 - Emerging policy issues and other issues of concern

[12] SAICM/OEWG.3/5 - Summary report on progress in the implementation of the Strategic Approach to International Chemicals Management for the period 2014–2016

[13] SAICM/IP.3/4 - Addressing issues of concern, prepared by the co-chairs of the intersessional process

Meanwhile, the here discussed section seeks to explore challenges, opportunities and options in a broader manner, thereby building on the initial considerations featured in the GCO-II and also relying on further insights from the scientific literature.

EPIs and other issues of concern

Complementing the knowledge presented in the GCO-II as well as various activities and documentations prepared in the context of SAICM, an overview will be prepared for each of the eight EPIs and other issues of concern identified by SAICM (lead in paint, chemicals in products, hazardous substance within the life cycle of electrical and electronic products, nanotechnology and manufactured nanomaterials, endocrine-disrupting chemicals, environmentally persistent pharmaceutical pollutants, perfluorinated chemicals and the transition to safer alternatives, and highly hazardous pesticides), covering the following information:

- Analysis of existing regulatory and policy frameworks (including both legally binding and non-binding initiatives, such as bans, use restrictions, fiscal policies) and their ability (including considerations such as enforcement etc.) to address the EPIs towards the achievement of the 2020 goal;
- analysis of action taken by non-governmental actors from civil society as well as the private sector (including voluntary standards, initiatives by industry associations, awareness-raising and capacity building projects by civil society etc.) and their ability (including considerations such as scope of the initiatives etc.) to address the EPIs towards the achievement of the 2020 goal;
- other relevant policy developments (e.g. multi-sectoral and multi-stakeholder action taken, such as through partnerships) and considerations (e.g. changes in consumer behavior, specific challenges faced by developing countries, progress in availability of data and lack thereof); and
- identification of knowledge gaps, areas for further research, remaining challenges and options for action.

For the above bullets, examples will be provided to illustrate how the respective regulatory and policy frameworks as well as other relevant actions and initiatives are addressing the issues.

Other issues where emerging evidence indicates a risk

Complementing the knowledge presented in the GCO-II, an overview will be prepared for each of the 11 chemicals/groups of chemicals (arsenic, bisphenol A, glyphosate, cadmium, lead, microbeads, neonicotinoids, organotins, polycyclic aromatic hydrocarbons, phthalates and triclosan) for which according to the GCO-II emerging evidence indicates a risk, covering the following information:

- basic technical information (brief background, chemical structure, main uses/applications, production process etc.) and economic information, including production data (key producers, geographic distribution etc.), use data (key markets etc.);
- information relevant for environment and health considerations[14], including, as appropriate, hazard, exposure, risk, releases, concentrations and effects;
- identification and assessment of relevant alternatives, considering among others relevant environment/health information, socio-economic information, life-cycle analysis etc.;
- analysis of existing regulatory and policy frameworks (including both legally binding and non-binding initiatives, such as bans, use restrictions, fiscal policies) and their ability (including considerations such as enforcement etc.) to address the issues;
- analysis of action taken by non-governmental actors (including voluntary standards, initiatives by industry associations, awareness-raising and capacity building projects by civil society etc.) and their ability (including considerations such as scope of the initiatives etc.) to address the issues;

[14] To the extent possible given available data, differentiations will be made regarding environmental and occupational exposures.

- other relevant policy developments (e.g. multi-sectoral and multi-stakeholder action taken, such as through partnerships) and considerations (e.g. changes in consumer behavior, specific challenges faced by developing countries, progress in availability of data and lack thereof); and
- identification of knowledge gaps, areas for further research, remaining challenges and options for action.

For the above bullets, examples will be provided to illustrate how the respective regulatory and policy frameworks as well as other relevant actions and initiatives are addressing the issues. Throughout, particular attention will be paid to lead and cadmium. To the extent possible given available data, distinctions will be made in terms of occupational and environmental exposure, developing and developed countries, and vulnerable populations

Considerations relevant for the identification of chemicals and waste management priorities at the international level

The report will further elaborate on the GCO-II finding that stakeholders could find value in further exploring methodologies that facilitate a more systematic identification of future priorities at the international level. For this purpose, existing mechanisms for the identification of chemicals and waste management priorities will be identified and examined. Moreover, considerations will be provided regarding the UNEA-4 mandate to follow the trends in the design, production, use and release of chemicals and the generation of waste in order to identify issues of concern in future Global Chemicals and Waste Management Outlooks and catalyse sound management actions. Linkages will be drawn with the assessment of options for strengthening the science-policy interface at the international level for the sound management of chemicals and waste, prepared in response to a mandate received from UNEA-4.

Workplan

Desk research is being undertaken in the third quarter of 2019 to compile existing knowledge on relevant issues where emerging evidence indicates a risk, covering the topics listed in the Annex. This will complement knowledge presented in the GCO-II as well as various activities and documentations prepared in the context of SAICM. Sources of information will include assessments by government agencies, relevant activities/reports by intergovernmental organizations as well as other stakeholders[15], and the scientific literature. Case studies (e.g. activities undertaken by relevant actors) may be used to illustrate the findings, in particular in the analysis of existing regulatory and policy frameworks.

Based on the desk research, a first draft of the report will be prepared before the end of 2019. The final version of the report will be prepared in time for the fourth meeting of the intersessional process in the first quarter of 2020.

In compiling relevant information, the IOMC participating organizations and relevant secretariats of Multilateral Environmental Agreements (MEAs) are being engaged on a regular basis (input to concept note and drafts of the report, bilateral consultations, request to provide references etc.). Moreover, interviews and a call for information to stakeholders with relevant knowledge and experience on the issues will be made, as appropriate, including stakeholders from relevant sectors (e.g. in housing, health, labor, agriculture).

Annex: Draft outline

Draft outline

1. Introduction

    1.1. Mandate

[15] E.g. the World Health Organization is developing guidelines on the prevention of lead poisoning which entails a systematic review of the evidence to support various risk management actions, and is to release a report on 'Methodologies and Systems for the Identification of Emerging Risks to Human Health from Chemicals'

1.2. Background

2. EPIs and other Issues of concern identified under SAICM

2.1. Lead in paint

2.1.1. Existing regulatory and policy frameworks

2.1.2. Action taken by non-governmental actors

2.1.3. Other relevant policy developments

2.1.4. Remaining gaps challenges and options for action

2.2. …

3. Other issues where emerging evidence indicates a risk identified by the GCO-II

3.1. Arsenic

3.1.1. Technical and economic information

3.1.2. Information relevant for environment and health considerations

3.1.3. Identification and assessment of relevant alternatives

3.1.4. Existing regulatory and policy frameworks

3.1.5. Action taken by non-governmental actors

3.1.6. Other relevant policy developments

3.1.7. Remaining gaps, challenges and options for action

3.2. …

4. Identification of chemicals and waste management priorities at the international level

4.1. Existing mechanisms to identify chemicals and waste management priorities

4.2. Identification of issues based on trends in the design, production, use and release of chemicals and the generation of waste

4.3. Considerations and potential follow-up actions

5. Concluding discussion

6. References

3) Preparation of an assessment of options for strengthening the science-policy interface for the sound management of chemicals and waste

In response to Resolution 4/9 on Sound Management of Chemicals and Waste, adopted at the fourth session of the United Nations Environment Assembly

Draft concept note (September 2019)

Background

Resolution 4/8[16] on sound management of chemicals and waste, adopted at the fourth meeting of the United Nations Environment Assembly (UNEA4) (Nairobi, Kenya, 11-15 March 2019), stresses the urgent need to strengthen the science-policy interface at all levels to support and promote science-based local, national, regional and global action on sound management of chemicals and waste beyond 2020. As further highlighted in the resolution, to be successful a strengthened science-policy interface would require involvement of all relevant stakeholders, including Governments, the private sector, civil society and the scientific and academic communities.

The conferences of the parties of the Basel, Rotterdam and Stockholm conventions adopted decisions[17] entitled 'from science to action', in which, among others, the Secretariat was requested to cooperate and coordinate, as appropriate with UNEP in the preparation of the assessment of options for strengthening the science-policy interface, particularly with regard to possible synergies and opportunities between the existing mechanisms under the Basel, Rotterdam and Stockholm conventions and the science-policy interface for the wider sound management of chemicals and waste. The decisions also took note of the road map for further engaging Parties and other stakeholders in informed dialogue for enhanced science-based action in the implementation of the three conventions[18].

The topic is also being discussed in other relevant international fora. Under the intersessional process, stakeholders have shown interest in addressing the topic of science-policy interfaces. Potential strategies to strengthen the science-policy interface were also prominently discussed at a side event at the third meeting of the Open-ended Working Group (OEWG3) of the International Conference on Chemicals Management (ICCM). Moreover, an international workshop was convened by the International Panel on Chemical Pollution (IPCP) (Geneva, Switzerland, November 2018) to support the ongoing dialogue on this topic.

As explored in a report prepared by the Inter-Organization Programme for the Sound Management of Chemicals (IOMC) in 2018, a number of international bodies and mechanisms that bring together scientists and policy-makers have been established to ensure that policy-making on sound management of chemicals and waste is informed by the latest scientific evidence. Meanwhile, the need for strengthened engagement by scientists and a stronger role for scientific research has been emphasized by various stakeholders. The Global Chemicals Outlook II (GCO-II) identifies continued challenges in creating a coherent global knowledge base for decision-making and highlights prevailing barriers in ensuring effective two-way communication between academia and policy-makers. The GCO-II provides several options for action to strengthen the science-policy interface and use of science in monitoring progress, priority settings (e.g. for emerging issues), and policy making throughout the life cycle of chemicals and waste. Valuable lessons regarding the collection and generation of data and knowledge as well as the science-policy interface have also been learned during the development of the GCO-II.

Mandate and objective

Resolution 4/8 requested the Executive Director, subject to the availability of resources and, where appropriate, in cooperation with the member organizations of the IOMC, to prepare by 30 April 2020 an assessment of options for strengthening the science-policy interface at the international level for the

[16] UNEP/EA.4/RES.8

[17] BC-14/25, RC-9/13, SC-9/23

[18] UNEP/CHW.14/INF/40; UNEP/FAO/RC/COP.9/INF/35; UNEP/POPS/COP.9/INF/44

sound management of chemicals and waste, taking into account existing mechanisms, including under UNEP, and relevant examples in other areas, in order to maximise cost-effectiveness, make best use of new technologies, track progress and improve implementation of relevant multilateral environmental agreements at the national level, and to make it available for consideration by all stakeholders prior to ICCM-5.

The assessment of options for strengthening the science-policy interface at the international level for the sound management of chemicals and waste will be presented as information/working document for UNEA5 as well as relevant meetings of the intersessional process to prepare by 2020 recommendations regarding the Strategic Approach and the sound management of chemicals and waste beyond 2020. The assessment seeks to facilitate and inform discussions on strengthening the science-policy interface for chemicals and waste management and thus support and promote science-based local, national, regional and global action on sound management of chemicals and waste beyond 2020.

Initial considerations relevant for preparing the assessment

Approach

The analysis will follow a three-pronged approach (see Annex A for a draft outline).

The first concerns the governance/institutional dimension. Existing mechanisms for science-policy interfaces at the international level in (a) the chemicals and waste cluster[19] and (b) other clusters will be identified via desk research (see Annex B for an preliminary draft list), thereby avoiding duplication of efforts (such as those featured in Annex C). These may range from intergovernmental bodies over interfaces run by IGOs to academic networks as well as from those established under legally-binding agreements to voluntary instruments. Relevant information on these interfaces will be gathered, including the following:

- process for establishment of the interface and mandate
- governance and administrative arrangements
- funding and costs
- membership and arrangements for stakeholder/expert input
- type of advice/insights/recommendations provided

A limited number of options (e.g. intergovernmental model, enhanced cooperation among existing UN entities, hybrid models, expert groups) will be induced from the existing science-policy interfaces. In addition, relevant literature will be consulted for this purpose (see Annex C for an initial overview). For each of the identified options and based on the insights generated from the functioning of existing science-policy interfaces, an analysis will be undertaken with a view to assessing in how far they may achieve the criteria listed below.

Second, the options for action identified in the GCO-II for strengthening the science-policy interface and use of science in monitoring progress, priority setting (e.g. for emerging issues), and policy making throughout the life cycle of chemicals and waste will be examined in more detail with a view in particular to identify and assess potential next steps. These options for action listed in the GCO-II for which potential next steps will be identifies and assessed are:

- developing science-based criteria to identify emerging issues at the international level, taking into account harm (e.g. using health impact information) and monitoring their implementation;
- developing and improving institutional mechanisms to improve knowledge generation and management.

[19] For a description of the chemicals and waste cluster and other clusters refer SAICM/IP.3/8 on 'Linkages and options to coordinate and cooperate between chemicals and waste management and other policy agendas prepared by UNEP'

- taking steps to harmonize scientific research protocols (e.g. for biomonitoring);
- providing research funding to fill identified gaps and priorities; and
- developing a study on the global costs of inaction, and benefits of action, on chemicals and waste management, comparable to the Stern Review on the Economics of Climate Change.

Third, to complement the analysis, a survey will be undertaken among those involved in the development of the GCO-II in order to extract insights that may be valuable with respect to the deliberation of options for strengthening the science-policy interface for chemicals and waste management. These may pertain among others to stakeholder engagement, methodology, and the review process. Results from the survey will be elicited in a qualitative and quantitative manner.

Criteria

The identified options above will be assessed in a systematic manner, thereby taking into account in particular the objectives formulated in the mandate, namely in how far the respective options may achieve the following:

- maximize cost-effectiveness (e.g. ratio between cost of running the interface versus policy impact)
- make best use of new technologies (e.g. use of modern modelling software)
- track progress (e.g. use of indicators that are specific, measurable, attainable, relevant and time-bound in monitoring and evaluating progress in implementation of relevant policy measures); and
- improve implementation of relevant multilateral environmental agreements at the national level (this criterion will be expanded to consider in how far the interface options could support capacity-building and the sound management of chemicals and waste in a broader sense, e.g. also the international level as well as including voluntary instruments)

In addition, other relevant considerations to assess the options may include:

- policy-relevance and impact (e.g. degree to which input/advice/recommendations are taken up by stakeholders and translate into activities and outcomes)
- credibility, transparency and scientific rigor (e.g. peer review; use of authoritative publications and scientific literature; public availability of data leading to relevant policy insights; openness of process; opportunities for stakeholder input)
- communication (e.g. degree to which the interface facilitates two-way communication between the scientific and policy communities; extent to which the scientific findings are translated into language suitable for policymakers and the general public; take-up by the press)
- flexibility (e.g. degree to which structure allows to swiftly react to emerging knowledge; one-off reports/meetings vs. continuous arrangements; adaptability to changing context)

Each of the criteria will be broken down in indicators (as illustrated through the indicative examples in brackets after each criterion). Potential means to prioritize the relevant criteria will be explored. The aim is not to recommend/discard one option over others, but rather to inform stakeholders as to the implications of each approach. Various options may be complementary and mutually supportive in strengthening the science-policy interface.

Workplan

Desk research is being undertaken in the third quarter of 2019 to review and consolidate knowledge from existing documentation in order to extract and provide an initial overview of options for further discussion, taking into account existing mechanisms, including under UNEP, and relevant examples in other areas. Annex C provides an initial overview of relevant information. Based on the desk research and the initial considerations presented below , a first draft of the assessment will be prepared before the end

of 2019. The final version of the assessment will be prepared in time for the fourth meeting of the intersessional process in the first quarter of 2020.

Throughout the process, the IOMC participating organizations and relevant secretariats of Multilateral Environmental Agreements (MEAs) are being engaged on a regular basis (input to concept note and drafts of the assessment, bilateral consultations, request to provide references etc.). Moreover, interviews and a call for information to other stakeholders with relevant knowledge and experience on the topic will be made (e.g. the Secretariat of the Scientific and Technical Advisory Panel of the Global Environment Facility), as appropriate, including to stakeholders from clusters beyond chemicals and waste management in the narrow sense (e.g. the Secretariat of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services; the Secretariat of the Intergovernmental Panel on Climate Change etc.) and relevant sectors (e.g. housing, health, labor, agriculture).

Annex A: Draft outline

Draft outline

1. Introduction
    1.1. Mandate
    1.2. Background
2. Overview of existing science-policy interfaces
    2.1. Science-policy interfaces in the chemicals and waste cluster
    2.2. Science-policy interfaces in other clusters
    2.3. Insights and lessons learned from existing science-policy interfaces
3. Lessons learned from the development of the GCO-II
4. Options for strengthening the science-policy interface
    4.1. Criteria to assess the options
    4.2. Governance and institutional options
        4.2.1.Option A
        4.2.2.Option B
        4.2.3.Option C
        4.2.4.…
    4.3. Other options for action identified in the GCO-II
        4.3.1. …
        4.3.2. …
        4.3.3. …
5. Concluding discussion
6. References

Annex B: Preliminary draft list of science-policy interfaces[20]

Chemicals and waste cluster

- Persistent Organic Pollutants Review Committee (PORC) of the Stockholm Convention
- Basel Convention's Open-ended Working Group
- Rotterdam Convention's Chemical Review Committee
- The Stockholm Convention's Global Monitoring Plan for Persistent Organic Pollutants (POPs)
- Basel and Stockholm Convention Regional Centers
- Scientific Assessment Panel (SAP) of the Montreal Protocol
- FAO/WHO Codex Alimentarius Commission
- FAO/WHO Joint Meeting on Pesticide Management (JMPM)
- WHO Chemical Risk Assessment Network
- WHO Global Burden of Disease Estimates
- WHO Guidelines (e.g. for Drinking Water Quality)
- WHO Technical Publications (e.g. on recycling used lead-acid batteries)
- OECD Test Guidelines Programme
- OECD Environment, Health and Safety Programme (EHS)
- Global Environment Facility´s Scientific and Technical Advisory Panel (GEF STAP)
- UNEP's Global Chemicals Outlook I and II
- The Polychlorinated Biphenyls Elimination Network (PEN)
- Global Alliance for the Development and Deployment of Products, Methods and Strategies as Alternatives to DDT
- UNEP's Advisory Group on Endocrine Disrupting Chemicals
- UNEP's Chemicals in Products (CiP) Programme
- UNEP's Global Mercury Partnership
- Identification of Emerging Policy Issues and Other Issues of Concern under SAICM
- Committee for Risk Assessment and Socio-Economic Assessment Committee (RAC and SEAC) to the European Chemicals Agency
- Scientific Committees and Panels to the European Food Safety Authority (EFSA)
- Thematic Working Group on Chemicals under the Asia Pacific Regional Forum on Health and Environment
- Association of Southeast Asian Nations (ASEAN) Technical Working Group on Chemicals and Waste
- International Panel on Chemical Pollution (IPCP)
- Endocrine Society

[20] It is recognised that some of the science-policy interfaces listed in the chemicals and waste cluster overlap with other cluster and vice versa; for a description of the chemicals and waste cluster and other clusters refer SAICM/IP.3/8 on 'Linkages and options to coordinate and cooperate between chemicals and waste management and other policy agendas prepared by UNEP'

- Arctic Monitoring and Assessment Programme (AMAP) of the Arctic Council
- Hazardous Substances Advisory Committee (HSAC) to the UK Government

Other clusters

- Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)
- Intergovernmental Panel on Climate Change (IPCC)
- United Nations Convention to Combat Desertification (UNCCD) Science-Policy Interface
- Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP)
- International Resource Panel
- Global Environment Outlook (GEO)
- UNIDO and UNEP National Cleaner Production Centres (NCPCs)
- UN Secretary General's High-Level Panels (HLPs) on (a) Women's Economic Empowerment; (b) Humanitarian Financing; (c) the Post-2015 Development Agenda; (d) System-wide Coherence; (d) Threats, Challenges and Change
- Scientific Advisory Board of the United Nations Secretary-General
- World Commission on Dams
- International Network for Government Science Advice (INGSA)
- International Science Council (ISC)
- Working Group on Effects and o-operative programme for monitoring and evaluation of the long-range transmission of air pollutants in Europe of the Convention on Long-range Transboundary Air Pollution (CLRTAP)
- The European Commission's science and knowledge service
- Scientific and professional societies in various countries such as the American Chemical Society (ACS) and Royal Society of Chemistry (RSC)
- Great Lakes Commission
- C8 Science Panel

Annex C: Initial bibliography

The following provides an initial list of relevant documentation. Desk research is ongoing to identify additional relevant documentation, including with regard to other clusters.

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