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**Fourth meeting of the intersessional process considering the Strategic Approach and sound management of chemicals and waste beyond 2020 (IP4)**  
Bucharest, Romania, 29 August – 2 September 2022

**Strengthening integrated chemicals and waste management: An IOMC contribution to the intersessional process on the “Strategic Approach and sound management of chemicals and waste beyond 2020”**

**Note by the secretariat**

1. The secretariat has the honour to circulate, in the annex to the present note, the document entitled “*Strengthening integrated chemicals and waste management: An IOMC contribution to the intersessional process on the “Strategic Approach and sound management of chemicals and waste beyond 2020”*”. The document presented in the annex has been developed and submitted by the Inter-Organization Programme for the Sound Management of Chemicals (IOMC) and has not been formally edited.

**Annex: Strengthening integrated chemicals and waste management: An IOMC contribution to the intersessional process on the “Strategic Approach and sound management of chemicals and waste beyond 2020”**

**About this paper**

This paper has been developed by the Inter-Organization Programme for the Sound Management of Chemicals (IOMC) to contribute to the discussions on the “Strategic Approach and sound management of chemicals and waste beyond 2020” (“Beyond 2020”). The paper features ideas to advance integrated chemicals and waste management. The concept had already received support at ICCM 1 in 2006 and some implementation progress has been made. Further discussions could be valuable to strengthen the concept and foster its implementation, considering recent developments, such as the adoption of the 2030 Agenda for Sustainable Development.

The paper proposes three dimensions of integrated chemicals and waste management. They include: 1. Developing basic national chemical management systems and capacities in all countries; 2. Integrating chemicals management in key industry sectors and product value chains; and 3. Integrating chemicals management with sustainable development issues and initiatives. The suggestions are offered to stimulate discussion, rather than constituting an IOMC negotiation position.

Interventions by the IOMC during the 2022 regional meetings generated interest in integrated chemicals and waste management and provided already some initial feedback from stakeholders (e.g., how it would apply in different regions, how it could contribute to work on objectives, targets, and indicators).

In response, UNITAR will organize a one-day workshop on Friday, 26 August 2022 in collaboration with the IOMC, in advance of IP 4 which is open to SAICM stakeholders. This draft of the paper will be among the background documents. It does not yet address initial feedback received, but input received has been noted and will be discussed at the workshop, together with other input. Further opportunities to discuss integrated chemicals and waste management and its relevance for the intersessional process could take place at an IP 4 Technical Briefing, during IP4, and/or following IP 4.

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## 1. Introduction and background

### *The need to accelerate the sound management of chemicals and waste*

About 30,000 chemical substances are currently on the global market. Many of these chemicals are hazardous to human health and the environment, but significant data gaps remain concerning their hazard properties (UNEP 2019). Hazardous chemicals are contained in raw materials and feedstocks, used during production, and are part of millions of different end products, which often expose humans directly. The chemical composition of these products is usually unknown to the public, and only a small fraction of materials and products is currently recycled. Significant releases of hazardous chemicals to the human and natural environment continue, causing a range of adverse impacts and leading to action by governments to ban or restrict the production and sale of some chemicals.

The *Global Chemicals Outlook II* (GCO-II) noted that the global goal to achieve the sound management of chemicals and waste by 2020 was not achieved (UNEP 2019). A concern identified by GCO-II was the absence of basic chemicals management systems and capacities in many low- and middle-income countries, in particular to manage industrial chemicals and products. Only a minority of countries has, for example, implemented national classification and labelling schemes compatible with the Globally Harmonized System for the Classification and Labelling of Chemicals (GHS). Furthermore, GCO-II stated that significant efforts remain to be made to manage chemicals in key industry sectors and product value chains. The reasons for the lack of implementation are complex but include lack of political buy-in and sustainable financing.

### *Some encouraging progress has been made*

GCO-II also recognized progress made by countries and stakeholders in recent decades. A majority of countries now has pesticides registration systems in place, albeit implementation is often lacking. Many countries have also introduced schemes to register and manage industrial and consumer product chemicals throughout their life cycle.<sup>1</sup> These schemes are generating a wealth of new chemical hazard data, hazard and risk assessments, and risk management decisions. In some cases, a chemical-by-chemical approach is replaced by managing groups of chemicals to accelerate progress (e.g., for PFOAs). GCO-II points out that the knowledge generated through these schemes could be made systematically available to prevent duplication of assessments and avoid those countries with limited resources need to start from scratch.

### *Opportunities for an integrated chemicals and waste management*

Certain aspects of an integrated chemicals and waste management were already discussed at the first International Conference on Chemicals Management in 2006 when SAICM was established. Since then, a number of countries as well as several IOMC POs have promoted certain dimensions of the concept. Annex 1 provides a snapshot of relevant SAICM decisions and selected implementing activities.

Several recent national industrial chemicals management initiatives promote integrated approaches. They help to ensure that chemicals assessment and management supports diverse protection objectives, such as workers' safety, citizen, consumer and public health, and environmental protection, alongside production and economic objectives. They also promote life cycle thinking and analysis to manage chemicals and products. All this requires effective coordination among concerned government ministries, engagement of key industry sectors and actors in value chains, and new ways of communicating and managing chemical hazards throughout value and supply chains.

### *Integrated chemicals and waste management and the "Beyond 2020" process*

The intersessional process on the "Strategic Approach and sound management of chemicals and waste beyond 2020" ("Beyond 2020") provides an opportunity to further develop the concept of integrated

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<sup>1</sup> Examples of such schemes include REACH in the European Union, or the updated Toxic Substances Control Act in the United States, or the order on new chemical substances in China (MEE Order No. 12) issued in 2020.

chemicals and waste management, generate commitment and ownership by key actors, and identify practical measures to operationalize it, not only through the “Beyond 2020” process, but also other relevant international governance mechanisms.

Questions relevant for refining and advancing an integrated chemicals and waste management include the following:

- What are the core dimensions of integrated chemicals and waste management and what aspects are most important? How do they relate to and complement existing approaches?
- How can a basic chemicals management programme support integrated management in key industry sectors and throughout the life cycle of chemicals and products, including through ways that give industry actors consistency and consumer confidence?
- What are the measures needed to operationalize integrated management concepts under the “Beyond 2020” process (e.g., through strategic objectives, targets and indicators) and in other relevant governance bodies (IOMC POs, MEA, etc.)?

Reinvigorating the concept can contribute fresh thinking and may engage new actors in the “Beyond 2020” process (e.g., downstream industry sectors). It could be further developed through collaboration of IOMC organizations with relevant stakeholders, taking into account good practices, such as those presented in GCO-II. Based on this, suggestions to refine “Beyond 2020” objectives, targets and indicators may be considered.

#### *Defining the scope of integrated chemicals and waste management*

Integrated chemicals and waste management needs to consider that certain chemicals and wastes are already addressed through a range of international initiatives and their national implementation activities. While global Multilateral Environmental Agreements (MEAs), such as the [Rotterdam](#), [Stockholm](#), [Basel](#), [Minamata](#) and the Ozone Treaties (i.e. the [Vienna Convention](#) and its [Montreal Protocol](#)) focus on specific chemicals and wastes, other agreements take a broader approach.<sup>2</sup> In contrast to pesticides, an International Code of Conduct which addresses industrial and consumer product chemicals does not exist.<sup>3</sup> Part II of GCO-II concludes that “although concerted action has been taken through multilateral treaties on specific hazardous chemicals and issues of global concern, implementation gaps remain”.

Concerning the interface of chemicals and waste, while the SAICM 2020 goal referred to chemicals, Target 12.4 of the 2030 Sustainable Development Agenda covers “chemicals and waste”. Under the Rotterdam, Stockholm and Basel Conventions some work has taken place to create synergies between chemicals and waste, but challenges remain. From these initiatives emerges that an integrated chemicals and waste management should promote the entire life cycle management of chemicals and products—including when products become waste.

## **2. Proposed dimensions of an integrated approach to chemicals and waste management**

While stakeholders may consider the concept of integrated chemicals and waste management from different perspectives, three dimensions have emerged which can provide a common framework (see Figure 1). They include the need to:

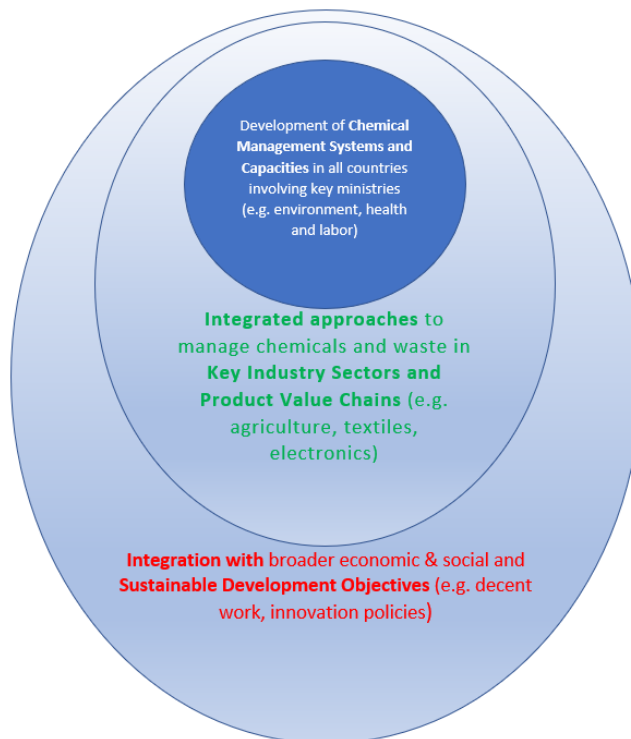
1. Develop basic *chemicals management systems and capacities* in all countries that engage and address key sectors
2. Support *integrated management in key industry sectors that cover the life cycle* of chemicals and products and promote a circular economy.

<sup>2</sup> Examples of broader agreements include the FAO/WHO International Code of Conduct on Pesticide Management, various ILO Conventions and Recommendations, the Globally Harmonized System for the Classification and Labelling of Chemicals (GHS), the International Health Regulations 2005, and SAICM.

<sup>3</sup> OECD has adopted a set of legal instruments which together may constitute a core legal system for the sound management of industrial and consumer chemicals.

3. **Integrate chemicals management with broader sustainable development issues** (e.g., decent work, health and well-being, innovation, climate change) and promote sustainable procurement as well as green and sustainable chemistry innovation and solutions.

Figure 1: Key dimensions of an integrated chemicals and waste management



The three dimensions support action on both legacy issues to control chemicals of concern, emerging issues of concern, as well as opportunities to advance green and sustainable chemistry solutions

## 2.1 Establishing a basic national chemical management system

The development of a basic chemicals management systems in all chemicals is a cornerstone of an integrated chemicals and waste management. This requires the development of basic legal, institutional and human resource capacities. The [SAICM Overall Orientation and Guidance](#) (OOG) (SAICM 2014) features a number of elements of a national chemicals management system that may be prioritized according to national circumstances. In addition, the [IOMC Toolbox](#) provides guidance on a range of chemical management tools which countries are encouraged consider. Elements considered important are introduced below.<sup>4</sup>

### 2.1.1. Priority elements to be considered in a national chemicals management system

#### *Ensuring classification and labelling through implementation of the GHS*

The classification and labelling of hazardous chemicals provide the backbone of any national chemicals management system. At the international level, the GHS offers widely accepted essential criteria and guidance for achieving harmonized classification and labelling of chemicals throughout the world. The adoption of the GHS supports others key elements of a basic chemicals management system, such as chemical registration, integrated risk assessment and management, risk reduction in key industry sectors and product values chains, and other management areas, such as chemical accident prevention and waste management. The full implementation of the GHS in all countries through regulations and standards that cover industrial chemicals, agricultural chemicals, consumer product chemicals and chemicals in

transport/storage therefore needs to be a top priority. Harmonized classifications based on the GHS have been developed for a number of chemicals under several jurisdictions and thus provide a basis for exchange of information for chemicals in trade. By recognizing and/or mutually accepting these classifications, countries may free up resources to focus on other aspects of chemicals management.

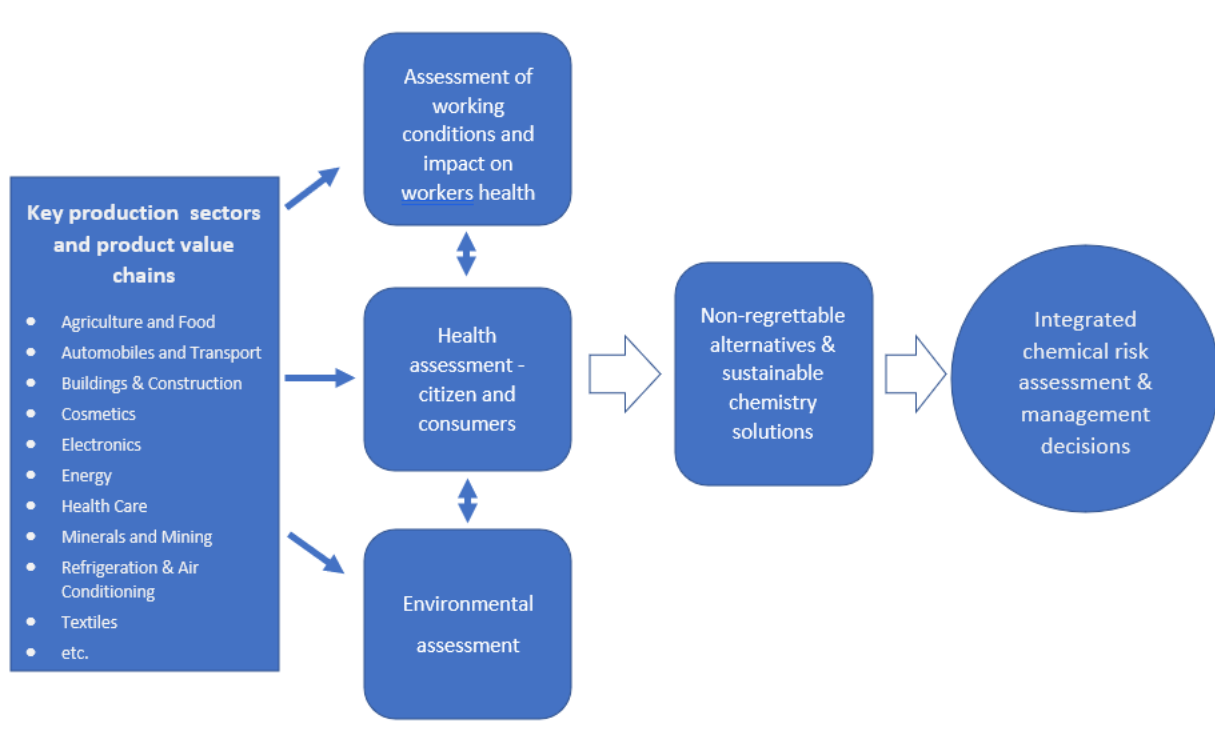
#### *Generating knowledge about hazardous chemicals in the country*

Generating targeted information about chemicals imported, produced and contained in products and waste is valuable to inform national risk assessments and management. A number of countries therefore put in place requirements for inventories and notification and registration schemes that help generate this information. Cost recovery mechanisms have been used successfully in a number of countries to cover the resources needed to operate these schemes. Furthermore, it is valuable to track chemical releases to air, water and land, including from products (and assess the local and national impacts of these releases, e.g., on health and economic productivity. Pollutant Release and Transfer Registers (PRTRs) can provide valuable information on chemical releases throughout the life cycle.

#### *Integrated assessment and management of chemical risks*

Integrated assessment and management of chemical risks help to address essential protection objectives such as workers' health and safety, public health, and environmental protection. As various protection objectives are usually addressed by different ministries (i.e., ministries of environment, labour and health), close intersectoral coordination is needed.

**Figure 2: An assessment and management of chemical risks in key industry sectors and product value chains**



GCO-II refers to a number of countries and jurisdictions which have prepared integrated national risk assessment and risk management decisions. These could be widely shared to support countries with limited resources.

*Integrated chemicals and waste management to enable a circular economy*

The design and use of non-hazardous chemicals, materials and products is a key factor in enabling waste prevention, recovery and recycling. It addresses the widespread problem that products and materials which contain, or are contaminated with hazardous chemicals, cannot be recovered or recycled. Eliminating or minimizing the use of hazardous chemicals in materials and products not only protects human health and the environment; it also helps to advance a circular economy. Integrating a circular economy vision into “Beyond 2020” can therefore create linkages between chemicals and waste management and promote front-of-the-pipe and sustainable chemistry solutions.

**2.1.2 Enabling framework to support a national chemicals management system**

The development of enabling institutional, legal, technical and human resource capacities is a necessary condition for advancing an integrated chemicals and waste management. As a starting point, countries may develop/update a [National Chemicals Management Profile](#) through multisectoral and multi-stakeholder engagement to assess the national chemicals management arrangements in place and to create a baseline. Existing guidance material on the development of national profiles and chemical management systems could be updated to strengthen consideration of integrated chemicals and waste management.

*Effective national institutions, coordination and stakeholder engagement*

The functions of a core national chemicals management system are generally provided by a number of different ministries, depending on national legal systems, e.g. by environment, health, agriculture, or labour ministries, respectively. Important elements include labelling of products containing chemicals (based on the GHS), authority to promulgate risk assessments and risk management decisions, a system of incentives and disincentives to promote compliance, and a defined role of the regulatory authority. Some countries have established a single dedicated chemical control authority.

Integrated chemicals and waste management needs effective national institutions, including a national inter-sectoral coordinating mechanism that is supported and owned by key ministries, in particular, environment, health, labour and agriculture, but also finance and economic ministries. This can, for example, be achieved by rotating chairing arrangements among ministries, mutually understanding and clarifying responsibilities etc. Furthermore, an effective stakeholder mechanism is required to effectively engage industry sectors and other non-governmental stakeholders.

*Legislation and enforcement covering the life cycle of chemicals, products and waste*

Some countries have started to introduce legislation covering the entire life cycle of chemicals. Such legislation may be designed to overcome fragmented regulations often developed over time, with rules to govern the entire life cycle (i.e. generation, import, storage, handling, transport and disposal of hazardous chemicals and waste).

It would be valuable widely share knowledge and experiences on relevant legislation, institutional sets ups, and the sound science and economic arguments supporting it. This could help to fast track to address gaps in countries and help save resources. This knowledge sharing could be supported through IOMC and its POs under the “Beyond 2020” framework.

*Creating linkages with other relevant initiatives at the national level*

Beyond fostering collaboration of bodies directly managing chemicals, an integrated national chemicals programme may also foster linkages with broader programmes addressing environmental and public health, pollution prevention and control waste management, etc. As these are often led by different ministries, effective information sharing and coordination is important.<sup>5</sup>

<sup>5</sup> WHO, for example, is exploring linkages and is preparing a thought starter on the importance of sound chemicals management for Universal Health Care and Primary Health Care.



**Text Box: Integrated implementation of international agreements**

International chemicals and waste agreements have catalysed and supported a range of action in countries, in particular in countries with limited resources. The participation of many countries in several agreements creates opportunities to put in place integrated implementation measures. For example, national chemicals management coordinating mechanisms could cover all international chemicals and waste agreements the country participates in; complementary and integrated national chemical and waste legislation could address measures under various international agreements (e.g. important control); or, the reporting of emissions for specific pollutants under various international agreements could be done through a national PRTR, rather than separate reporting schemes. A range of good practices in countries already exist. They could be documented and turned into knowledge and guidance to encourage countries to implement international chemicals and waste agreements through integrated chemicals and waste management.

*Sustainable financing*

Scaling-up predictable and sustainable financing is key to put in place an integrated chemicals and waste management, particularly for establishing and sustaining a basic chemicals management system in low- and middle-income countries. The [integrated approach to long-term funding](#) of the chemicals and waste management agenda, adopted by the UNEP Governing Council in February 2013 (UNEP/GC.27/7) and recently endorsed again through UNEA-5 foresees a blended approach to financing, including three aspects: mainstreaming at the national level, industry involvement, and dedicated external finance. All three dimensions are still relevant but need to be further developed and integrated at the national level, whenever possible.

At the national level, countries could be encouraged to consider a range of financing mechanism, in particular national budget allocations. This includes the inclusion of the sound management of chemicals and waste in national health, labour, social, environment and economic budgeting processes and development plans (SAICM 2015). Equally important is the use of cost recovery mechanisms, such as chemical registration fees or levies.

Given that various international financial mechanisms support chemicals and waste management capacity development a reflection may be needed how to ensure full coordination and create synergies across these mechanisms to support an integrated management. Equally important is the need to mobilize scaled-up funding from industry to support the development of basic chemicals management systems. Such support needs to be fully coordinated with other financing approaches. The IOMC may be in a position to assist in developing suggestions for integrated capacity development and sustainable financing for the sound management of chemicals and waste, in partnership with concerned stakeholders.

*Sustainable human resource capacities*

Adequate human resource capacity is crucial, pointing to the importance of taking a strategic approach to learning. National Chemicals and Waste Management Learning Strategies can help ensure that knowledge and skills of all relevant actors, including empowerment of citizens, are developed in a systematic and integrated manner and help develop capacities to put in place adequate legislation, institutions, financing, and technical infrastructure.<sup>6</sup>

<sup>6</sup> Examples exist to support the development of national learning strategies, e.g. through UN CC:LEARN to support human resource development to address climate change.

## 2.2 Integrating chemicals and waste management in industry sectors and product value chains

### 2.2.1 Identifying chemical intensive industry sectors and product value chains

A range of chemical intensive industry sectors and product value chains use and release significant quantities of hazardous chemicals. These sectors include but are not limited to: Agriculture and Food Production, Automobiles and Transport, Construction and Building, Cosmetics, Electronics, Energy, Health Care, Minerals and Mining, Refrigeration and Air Conditioning, and Textiles. There are other sectors which could be listed. Little is known, however, about the exact magnitude and nature of chemical release associated with key industry sector and product value chains, and in specific local contexts. This creates challenges for prioritising sectors both at the international and national levels.

A forward-looking approach could be to identify key industry sectors which widely use chemicals of concern identified as a priority at the international level through legally binding or voluntary agreements (see box below). Another entry point could be to identify sectors based on industry initiatives that have been initiated voluntarily, resulted from regulatory requirements, or responded to pressure from public interest groups. Opportunities could be explored to strengthen and expand these initiatives through the “Beyond 2020” process. Other considerations and criteria to identify sectors could take into account their economic value and/or chemical exposure of humans and the environment.

**Text Box: Mobilizing commitment and engagement of the retail sector in the  
“Beyond 2020” process**

Retailers play a crucial role in driving sustainability performance along the product supply chains. They are the closest to consumers in the value chain and have both financial and reputational incentives to implement robust chemical management programmes that respond to consumer concerns. Many retailers have developed sustainable chemical policies and incorporated sustainability considerations in their business practices and procurement processes, including the phase out of chemicals of concern. Instruments and approaches used by retailers include, for example, chemical ingredient assessment, supplier chemical assessment, restricted substances lists, as well as substituting or redesigning initiatives to eliminate priority chemicals. Sharing the experience of front-runner retailers in the “Beyond 2020” process could stimulate other retailers to embark on similar initiatives.

### 2.2.2 Integrated chemicals and waste management in key industry sectors and product value chains

To advance action in key industry sectors and product value chains, it is proposed to strategically engage industry sectors and retailers in the “Beyond 2020” process and encourage them to develop, present and discuss with other stakeholders integrated and sustainable chemical sector strategies (or road maps). This could be done, for example by organizing regular “Industry Sectors Dialogues” as part of the formal programme, or in the margins of major “Beyond 2020” events to discuss, review and further develop industry sector action. Ensuring critical and constructive feedback as well as accountability would be an important feature of these dialogues.

An important aspect of the industry sector strategy and road map process is to develop a sector vision, and generate commitment of key actors in the product value chains concerning important sustainability parameters, such as minimizing the use of hazardous substances, or advancing circularity objectives. Action in at least four areas can help to achieve this vision and includes: advancing the science on chemicals of concern; advancing green and sustainable chemistry technology innovation; strengthening regulations and policies; and mobilizing finance.

More specific measures and steps of an integrated chemicals and waste management in industry sectors and product value chains could include:

1. Development of a list of hazardous substances causing concern in *raw materials and supplies and production processes* (e.g., a manufacturing restricted substances list (MRSL), or equivalent standards that specify acceptable limits in raw materials and product manufacturing processes).
2. Development of standards that specify acceptable levels of residues of chemicals in *finished products* (e.g. restricted substances list (RSL), maximum residue limits (MRL) or equivalent standards).
3. Development and implementation of *risk reduction measures* to minimize occupational and public exposure, as well as emissions to air, land and water, when hazardous substances cannot be phased out.
4. Identification and implementation of *sustainable practices and alternatives*, including through green and sustainable chemistry innovation. These may include changes in processes, recipes, or product design, based on robust criteria and guidance what constitute safer alternatives.
5. Development of *sector-specific indicators* to measure progress, taking into account the SAICM Strategic Objectives and results framework, as well as mechanisms for monitoring and informing SAICM stakeholders about progress and challenges encountered.

While in some cases, substituting chemicals of concern with a safer alternative chemical may be possible, other more strategic changes may be needed, such as rethinking product design to achieve desired product functions with minimal use of hazardous chemicals. Some of these measures would be promulgated or stimulated through a basic chemicals management system.

**Text Box: Addressing chemicals of international concern in industry sector strategies and road maps**

A range of chemicals of concern and priority issues have been identified through international chemicals and waste agreements. These include, for example:

- Persistent organic pollutants under the Stockholm Convention
- Mercury under the Minamata Conventions, or
- Lead in paint; Highly hazardous pesticides, PFOS, lead, or nano-materials under SAICM
- Chemicals identified in GCO-II

A matrix could be developed to systematically map these and other international chemicals of concern against the use in various industry sectors and product value chains. This analysis could inform the development of sectoral chemicals strategies or road maps.

### 2.2.3 Possible action to advance integrated industry strategies

*What can industry front-runners do?*

Frontrunner industry actors play a key role in fostering sector chemical strategies or road maps that minimize the use of hazardous chemicals. These front-runner actors can share experience of implementing measures that are achievable and realistic for the whole industry. Frontrunners can also be encouraged to establish and/or grow the membership of industry associations or industry groups that bring together liked-minded companies. The Zero Discharge of Hazardous Chemicals Foundation (ZDHC) provides an example for this in the textile sector.

Specific enabling action which could be pursued through industry initiatives includes:

- Committing to transparency, information disclosure and accountability in the supply chain
- Developing industry-wide guidelines or standards (e.g., guidelines for production, chemical substance and material disclosure, testing of final product for MRLs)
- Systematic adoption of corporate management instrument, such as Sustainable Supply Chain Management, Extended Producer Responsibilities and Life Cycling Assessment
- Knowledge-sharing and wide dissemination of good practices including of green and sustainable chemistry solutions
- Development of capacity through training of people in the relevant sectors at all levels

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- Knowledge-sharing and wide dissemination of good practices including of green and sustainable chemistry solutions
- Development of capacity through training of people in the relevant sectors at all levels

**Text Box: Integrating green and sustainable chemistry into industry sectors and value chains**

Advancing green and sustainable chemistry in key sectors and value chains is an important component of an integrated chemicals and waste management. The concept has gained significant attention around the world, given its potential to help achieve the global sustainable development goals and targets through chemistry innovation. Examples include chemistry innovation in revolutionizing energy storage and battery development; creating sustainable building materials; improving the recyclability and biodegradability of products; or turning carbon dioxide (CO<sub>2</sub>) and wastes into chemical feedstocks. [Performance and service-based business models](#), such as chemical leasing can help to advance green and sustainable chemistry. At the international level, UNEA has requested UNEP to develop a series of green and sustainable chemistry manuals. A [Green and Sustainable Chemistry Framework Manual](#) (UNEP 2020) has been published and specialized manuals are under preparation. UNIDO has developed a practical toolkit on green chemistry for companies and governments.

*What can front-runner governments do?*

An important aspect of government action is to increase awareness of the general public on important topics related to toxic chemicals, such as related health problems, climate change, environmental degradation, etc. Public policy could be put in place to nudge people/consumers towards choosing greener, and safer chemical product and foster changes in consumption behaviour.

- Phase-out particular chemicals of concern and enforcing them to establish a level playing field for all industries and companies

- Introduce community and consumer right-to-know and schemes and criteria for labelling schemes
- Use tax incentives to foster market shifts towards cleaner production and products
- Promulgate the polluter pays principle
- Subsidize research and innovation to advance green and sustainable chemistry solutions
- Support sustainable procurement strategies for public actors

### 2.3 Integrating chemicals and waste management within sustainable development

#### 2.3.1 What are relevant sustainable development issues?

Integrating chemicals and waste management with sustainable development issues and initiatives is an important dimension of an integrated management approach. Relevant environmental sustainability topics include, but are not limited to: biodiversity, climate change, or ozone layer protection. Relevant socio-economic topics include but are not limited to sustainable industrial development and job creation, workers protection, public health, gender equality. Last but not least, broader enabling policies are of importance, in areas such as education and innovation.

The challenge of integrating chemicals and waste management into sustainable development policy processes is to attract actors from relevant policy communities in chemicals and waste management processes and, vice versa, integrate chemicals and waste considerations in the work of other policy-making bodies, e.g. by actively participating in relevant processes. IOMC POs can play an important role in engaging with relevant ministries, actors and processes to create impact.

#### **Text Box: The interface of climate change and chemicals and waste management**

The transformation of energy systems to renewable energy requires significant chemistry and material innovation and investments. It is therefore important that chemicals and waste considerations are fully addressed in energy sector strategies. Important questions arise. For example, are solar panels designed and produced with minimal use of hazardous chemicals? Are the composite materials used to produce windmill blades easily recyclable, or will they become future waste? Or, can the use of toxic metals in the production of high performing batteries be minimized and their reuse be ensured? These and other relevant questions require close cooperation of different policy communities.

#### 2.3.2 Supporting action to integrate chemicals and waste in sustainable development

Strategic actions to integrate chemicals and waste in sustainable development issues and processes needs to focus on including relevant considerations in country-level strategies, plans and activities to implement the 2030 Sustainable Development Agenda. This requires effective engagement of key stakeholders beyond the national government, i.e., local governments and municipalities, as well as the civil society and industry associations.

To support these efforts, supporting action may include:

- Establishment of a global platform for knowledge exchange on integrated chemicals and waste management.<sup>7</sup>
- Development of methodological guidance to countries with respect to targets, indicators, and activities the countries can incorporate into their SDG implementation plans
- Development of guidance on incorporation of chemicals and waste management aspects into national biodiversity conservation and climate change mitigation strategies
- Organization of national, regional, and global events on incorporation of chemicals and waste management aspects in the implementation of the Agenda 2030 at the country level with participation of representatives of development planning institutions
- Organize the exchange of examples and best practices between low and middle income countries.<sup>8</sup>

At the UN country level, the Resident Coordinator system enables cohesive work on cross-cutting issues through a country support plan which guides coordinated activity of UN entities working in cooperation with national stakeholders.<sup>9</sup>

### 3. Possible objectives and targets to support integrated chemicals and waste management

#### 3.1 Possible objectives of integrated management

Clarifying the objectives and overall desired outcomes of integrated chemicals and waste management can help to identify targets and indicators to measure progress, as well as implementation measures. Possible objectives and outcomes may include:

- Establishing legal, institutional and technical capacity in all countries to manage hazardous chemicals throughout their life cycle through intersectoral coordination
- Filling global data gaps concerning hazard properties of chemicals through global collaboration and mutual acceptance of data<sup>10</sup>
- Sharing of national chemical risk assessment and risk management approaches for consideration of countries with limited resources<sup>11</sup>
- Promulgating integrated chemical management approaches in a wide range of industry sectors and value chains to protect workers, consumers and the environment
- Advancing circular economy objectives by promoting design of non-hazardous chemicals, materials and products, based on green and sustainable chemistry innovation

#### 3.2 Suggestions for “Beyond 2020” targets/indicators

This section offers suggestions for possible targets or indicators relevant for advancing integrated chemicals and waste management. They may become either targets (if considered of high importance), or indicators. An important challenge is to fit the suggested targets/indicators with the five strategic objectives. Annex 2 provides a brief analysis of the current strategic objectives and suggests opportunities for refining their wording, while attempting to keep their essence.

##### 3.2.1 Development of basic national chemical management systems

The following targets (or indicators) are considered to be important for advancing the development of basic chemical management systems in all countries:

- By 20xx, yy countries have fully implemented the GHS (i.e., for industrial chemicals, agricultural chemicals, consumer product chemicals and chemicals in transport/storage)
- By 20xx,yy countries have in place national information system for the sound management of chemicals and waste (i.e. chemical inventories, notification and registration schemes, right-to-know schemes).
- By 20xx,yy countries have legislation, institutions and enforcement mechanisms in place that address the life cycle of chemicals, products and waste and advance integrated assessment and management of chemical risks.

<sup>7</sup> Example exist for other topic areas, e.g. IW:LEARN in the international waters sector, UNCC:Learn for climate change, or GGKP for green economy.

<sup>8</sup> For example using those experiences identified in GCO-II (e.g. China, Thailand, EU, Nigeria, Denmark, Canada)

<sup>9</sup> There are a number of issues-based coalitions where different UN agencies are brought together such as [issue-based coalitions and groups | UNECE](#). This is worth exploring as the focus on the issues-based coalition is to advance the SDGs.

<sup>10</sup> For example, through participation in the OECD System of Mutual Acceptance of Data.

<sup>11</sup> This could be done through cooperation with regional entities, such as ECOWAS, SADC or ASEAN to name some.

- By 20xx, yy countries have developed a National Chemicals and Waste Management Action Plan and identified priority measures to strengthen their national legal, institutional, financial and human resource capacities.
- By 20 xx, yy countries have developed a hazard-based approach to the prevention, preparedness, response and recovery to chemical accidents

### **3.2.2 Integrating chemicals and waste management in key industry sectors**

The following targets or indicators are considered to be essential in advancing the integration of chemicals and waste management in industry sectors and product value chains.

- By 20xx, yy key industry sector actors have developed a sustainable chemical strategy in the x,y,z sectors (e.g. textile, electronic, building, agriculture, etc.)
- By 20xx, yy leading actors in the retail sector have developed a sustainable chemicals strategy
- By 20xx, international guidance has been prepared through multi-stakeholder collaboration to support the development of sustainable chemicals strategies in key sectors

### **3.2.3 Integrating chemicals and waste management into sustainable development action**

The following targets or indicators are considered to be essential in advancing the integration of chemicals and waste management into sustainable development.

- By 20xx, yy countries have mainstreamed integrated and waste management in their national sustainable development strategies
- By 20xx, yy countries have integrated chemicals and waste management considerations in key policies and initiatives to advance sustainable development
- By 2020, yy countries have developed green and sustainable chemistry strategies to advance the substitution of chemicals of concern

## **3.3 Supporting and enabling measures**

Further supporting measures are needed at all levels to help achieve the above targets/indicators. They may include:

- Development of a global knowledge-platform and outreach initiative to share existing integrated chemical assessments, management decisions and good practices<sup>12</sup>
- Development of a global initiative to fill current data gaps on chemical hazards and foster mutual acceptance of chemical hazard assessments
- Scaling-up coordinated support for capacity development and encouraging front-runner countries to develop and share good practices
- Identifying engagement modalities and create incentives for relevant ministries and industry sectors to engage in “Beyond 2020” both at the international and national levels
- Developing a strategy to expand the integrated approach to financing, including identification of innovative financing approaches and enhanced coordination among existing financing schemes.

<sup>12</sup> This could take into account/build on the SAICM community of practice website and the OECD eChemPortal.

## Annex 1: Past decisions and IGO action to advance integrated chemicals management under SAICM

Various dimensions of “integrated chemicals management” received attention during the development of SAICM at ICCM-1 in 2006. References to “integrated management” are included in the SAICM Overarching Policy Strategy (OPS) and in the more detailed Global Plan of Action (GPA) adopted at ICCM-1. Specially, SAICM called for:

- Development of integrated national chemicals management programmes in all countries (OPS objective and GPA indicator)
- Development of integrated approaches to the safe use of chemicals in the world of work (based on ILO conventions, recommendations, codes of practice and technical guidelines)
- Implementation of Integrated Pest Management
- Integration of chemicals management in development planning and donor assistance

Several IOMC organizations have promoted certain aspects of integrated chemicals and waste management. For example,

- ILO has supported Member States to integrate chemical safety within broader occupational health and safety programmes, which in turn are linked to and integrate with broader programmes promoting decent jobs, green jobs, gender equity, etc. International Labour Standards on OSH follow an integrated approach that tackle a broad range of risks as well as roles and responsibilities for constituents to act in an integrated manner.
- WHO has promoted integration of chemical incident preparedness and response and chemical disease monitoring in broader public health initiatives as well as encouraged ministries of health to embrace their often under-recognized roles in addressing chemicals safety through the WHO Chemicals Road Map initiative.
- UNITAR/IOMC provided support to developing countries to advance Integrated National Programmes for the Sound Management of Chemicals, including a baseline assessment (National Profile) prepared through multi-sectoral and multi-stakeholder collaboration. Guidance documentation on this topic was developed through collaboration of UNITAR with the IOMC PO’s and Convention Secretariats (UNITAR/IOMC 2004).
- Within UNEP, the International Environmental Technology Centre - IETC (Osaka), was referred to during SAICM as “implementing integrated waste, water and disaster management programmes, focusing in particular on Asia” (UNEP 2006).
- More recent developments include UNEP’s “Integrated approach to the sustainable financing of sound management of chemicals and wastes” adopted in 2013 by the UNEP Governing Council.
- UNDP published the “UNDP Guide for Integrating the Sound Management of Chemicals into Development Planning”. The Guide has served as the basis for several UNDP country projects. UNDP also developed methodological guidance documents such as the “Chemicals and Gender” publication.

Other related developments of interest include:

- The OPCW Executive Capacity Development Programme on Integrated Chemicals Management.
- The United Arab Emirates national policy on integrated chemicals management which was recently adopted a ([UAA 2018](#)).



## Annex 2: Considerations on the 5 strategic objectives

### General considerations

- The focus, scope and flow of the five Strategic Objectives are fine. It may be valuable to place the data and knowledge objective up front.
- Some strategic objectives are currently long, focus on inputs (rather than outcomes) and may be difficult to comprehend. There is an opportunity to sharpen and shorten them and tweak them to convey the outcome/results to be achieved. Terms like “measures are identified...” (these are inputs) should not appear in a strategic objective.
- It could be valuable to agree upfront that each strategic objective has no more than two lines. If they become longer, the objective risks to become incomprehensible. To avoid that the objectives become lengthy, a brief description could be developed for each objective. Or the targets under each objective could do this.
- The targets also need to be sharp, measurable, and consistently worded. For example, all targets should start with “By xxxx...”
- It may be valuable to agree up front that targets should be monitorable through a simple traffic light system (red, orange, green). That would keep them simple. An example of a measurable target would be “By 2025 the GHS is fully implemented in all countries and by all major industry associations”. Of course, indicators are needed to monitor progress.
- If a target is phrased as “Countries take measures to.... (see A 5 for example) it would be difficult to measure implementation. Anything could potentially qualify and make comparison against baselines difficult.

### Reflections on the 5 draft strategic objectives

#### **Strategic Objective A. “National capacities and systems”**

Current wording:	[Measures are identified, implemented and enforced in order to prevent or, where not feasible, minimize harm from chemicals throughout their life cycle [and waste]
Brief assessment:	The current wording is broad, includes “measures” and is very close to the 2020 goal language. The “considerations” provided under this strategic objective are more precise and clarify its focus, i.e., it is about national capacities and systems.
Proposed wording:	<b>Countries have the basic capacity, legal framework and institutional mechanisms in place to support the integrated management of chemicals and waste throughout the life cycle.</b>

#### **Strategic Objective B “Data, knowledge and information”**

Current wording:	Comprehensive and sufficient knowledge, data and information are generated, available and accessible to all to enable informed decisions and actions
Brief assessment:	Looks good. Objective 3 is a good example of a well phrased objective
Proposed wording:	N.A

#### **Strategic Objective C “Issues of concern”**

Current wording:	Issues of concern [that warrant [global][and][joint] action] are identified, prioritized and addressed.
Brief assessment:	Looks good. Objective 3 is a good example of a well-phrased objective
Proposed wording:	N.A.

#### **Strategic Objective D “Innovate and safer solutions in product value chains”**

Current wording:	[Benefits to human health and the environment are maximized and risks are prevented or, where not feasible, minimized through safer alternatives, innovative and sustainable solutions and forward thinking.]
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Brief assessment: Objective D is long and challenging to comprehend. It would need to be rephrased, while trying to keep its essence. The rephrasing provides an opportunity to bring in the industry sector and product value chain considerations. The language on maximizing benefits and minimizing risk could be put at the end, and circularity could be included.

Proposed wording: **Safer alternatives and innovative solutions are introduced in key product value chains that maximize the benefits of chemicals to protect human health and the environment, minimize risks, and advance circularity.**

**Strategic Objective E: “Integrating chemicals and waste management in strategic decision-processes”**

Current wording: [The importance of the sound management of chemicals and waste as an essential element to achieving sustainable development is recognized by all [ adequate, predictable and sustainable financial and non-financial resources are [identified and] mobilized; actions are accelerated; and necessary [transparent and accountable] partnerships are established to foster cooperation among stakeholders].

Brief assessment: Strategic objective E is also long. It seems the focus is on integrating chemicals and waste management into strategic decision processes, including finance decisions. Targets could provide details.

Proposed wording: **The sound management of chemicals and waste is integrated in all relevant sustainable development, financing and corporate decision-processes.**