

A photograph showing two men standing in a large, open area filled with dark, charred waste. In the background, there are large mounds of brown earth and some industrial structures under a cloudy sky. One man is in the foreground, wearing a dark shirt and pants, looking towards the right. The other man is further back, wearing a white tank top and dark pants, also looking towards the right. There are small fires burning in the waste, and a large grey plastic container is visible on the right side.

# Chemicals and Waste Governance Beyond 2020

Exploring Pathways for a  
Coherent Global Regime



Nordic Council  
of Ministers



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*Tuula Honkonen and Sabaa A. Khan*

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# Preface

The Strategic Approach to International Chemicals Management (SAICM) was established in 2006 as an outcome of the World Summit on Sustainable Development. Since then, SAICM has catalysed action to achieve sound management of chemicals throughout their life cycle by 2020. In October 2015, the 4th session of the International Conference on Chemicals Management decided to formulate a new global framework for sound management of chemicals and waste to be adopted in 2020.

In December 2015, the Nordic Council of Ministers decided to fund a study to provide early input to the development of a new global framework for the sound management of chemicals and waste. In April 2016, an independent expert team from the University of Eastern Finland (UEF), comprising the researchers Tuula Honkonen and Sabaa Ahmad Khan, was commissioned to undertake the study. The Ministry of the Environment of Finland was responsible for the overall coordination of the work, which was led by Senior Adviser Niko Urho and Ministerial Adviser Pirkko Kivelä.

The present study, "Chemicals and Waste Governance Beyond 2020: Exploring Pathways for a Coherent Global Regime", is a first attempt to analyse functions needed for effective chemicals and waste governance and to identify options for the institutional form in the post-2020 era. The options for form detailed in the report constitute preliminary institutional proposals and are exploratory in nature and not recommended courses of action. The angle of the analysis of the study is Nordic, and the intention is to provide solutions from a Nordic viewpoint.

The views expressed and conclusions drawn are the sole responsibility of the authors and should, therefore, be considered as a contribution to enrich the knowledge base for discussions leading to the formulation and, finally, the adoption of the new global framework for the sound management of chemicals and waste.

Helsinki, December 2016





# Abbreviations

AC	Arctic Council
ACAP	Arctic Contaminants Action Program
AMAP	Arctic Monitoring and Assessment Programme
BAN	Basel Action Network
BRICS	Brazil, Russia, India, China and South Africa
BRS	Basel, Rotterdam and Stockholm Conventions
CCAC	Climate and Clean Air Coalition
CiP	Chemicals in Products
CLP	Classification, Labelling and Packaging of Substances and Mixtures
CLRTAP	Convention on Long-range Transboundary Air Pollution
DPP	Development partnerships with the private sector
ECHA	European Chemicals Agency
ECOSOC	Economic and Social Council
EEAP	Environmental Effects Assessment Panel
EEE	Electrical and electronic equipment
EMG	Environment Management Group
EMM	Environment Ministers' Meeting
EPR	Extended producer responsibility
ESM	Environmentally sound management
FAO	Food and Agriculture Organization
GCO	Global Chemicals Outlook
GEF	Global Environment Facility
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
GPA	Global Plan of Action
GXG	Global experimentalist governance
HFC	Hydrofluorocarbon
ICCA	International Council of Chemical Associations
ICCM	International Conference on Chemicals Management
ILC	International Law Commission
ILO	International Labour Organization
IMG	Issue Management Group

IOMC	Inter-Organization Programme for the Sound Management of Chemicals
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IPCC	Intergovernmental Panel on Climate Change
IPCP	International Panel on Chemical Pollution
ITUC	International Trade Union Confederation
IUCN	World Conservation Union
MDG	Millennium Development Goal
MEA	Multilateral environmental agreement
MGOS	Major Groups and other Stakeholders
NGO	Non-governmental organization
OECD	Organisation for Economic Co-operation and Development
OHCHR	Office of the United Nations High Commissioner for Human Rights
OOG	Overall Orientation and Guidance (for Achieving the 2020 Goal)
OPS	Overarching Policy Strategy
POP	Persistent organic pollutant
QSP	Quick Start Programme
REACH	Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
SAICM	Strategic Approach to International Chemicals Management
SAP	Scientific Assessment Panel
SDG	Sustainable Development Goal
SDS	Sustainable Development Sector
SECE	Scientific Expert Group on Chemicals and the Environment
SMCW	Sound management of chemicals and waste
TEAP	Technology and Economic Assessment Panel
UNCED	United Nations Conference on Environment and Development
UNEA	United Nations Environment Assembly
UNEP	United Nations Environment Programme
WHO	World Health Organization

## Summary

The production and use of chemicals has grown exponentially from the 1970s to today. At the same time, the negative impacts of hazardous chemicals and waste on human health, the environment, and economic and social life have multiplied as well, despite action taken to enhance chemicals safety.

The current state of global chemicals and waste governance is characterized first and foremost by fragmentation. Separate instruments have been developed in response to specific challenges as they have emerged. The resulting international governance framework for the protection of the environment and human health from chemical hazards and waste is narrow in its regulatory reach. Within this context, SAICM has been a welcomed broader framework, even though legally non-binding, for global cooperation in the sound management of chemicals and waste (SMCW).

The present study report outlines the current situation of chemicals and waste management on a global scale, focusing on the environmental dimensions but also considering the impacts on economic and human health. The report highlights the significance of a life-cycle approach to the sound management of all chemicals and waste, and of explicitly aligning the Post-2020 Framework for SMCW with the 2030 Agenda.

Through an analysis of the vital functions of SAICM, the report identifies gaps and strengths in the current international chemicals and waste management framework. To fill gaps and to build on existing strengths, the study provides recommendations for incremental improvements of the functions, also drawing on salient features from other international bodies and processes.

The report suggests that the post-2020 regime should have a simplified and comprehensible structure so that the elements of good governance can be fully realised. Furthermore, a stronger link should be formed between chemicals and waste and socio-economic questions, including human rights and the health of vulnerable populations such as children.

One of the major strengths of SAICM has been that it has involved governments and other stakeholders as equal partners in its work. The Post-2020 Framework should continue SAICM's multi-stakeholder approach, bringing together inter-governmental and non-governmental organizations and the chemical industry organisations. Private sector involvement could be widened to include also industrial

down-stream users of chemicals or their organisations, considering the growing volume and the use of chemicals in practically all economic sectors.

The study stresses the role of effective information management, which should secure simple access to information for taking required actions to achieve the sound management of chemicals and waste. In addition, the responsibilities of chemical manufacturers should be enhanced to provide adequate health and safety information for any chemical placed on the market, and to ensure access to this information worldwide. To this end, the SAICM Clearing-House Mechanism should be improved to be equipped with sufficient resources and a clear mandate.

The Post-2020 Framework that succeeds SAICM requires greater strategic policy planning and oversight, including a mechanism for systematically assessing progress and identifying emerging problems, and bringing them to the attention of governments. Existing scientific bodies and assessments on chemicals and waste should be better linked to decision-making within SAICM, and any possible new scientific panel should directly engage with governments to support more informed decision-making.

The current indicator framework under SAICM should be revised, since many of the listed indicators do not deliver information on actual practices in chemicals management that can be used by SAICM stakeholders to assess progress over time. The revised indicators should have an enhanced focus on implementation and progress assessment. Furthermore, the indicators should be easy to communicate and the overall system should not be too large and complicated.

It is generally acknowledged that the level of funding for chemicals and waste management does not respond to current needs. UNEP's new Special Programme exhibits promise, since it combines elements from the Montreal Protocol Multilateral Fund and the QSP of SAICM, aiming to strengthen institutional capacity for sound chemicals and waste management in developing countries in an innovative and holistic way. In addition to inter-governmental mechanisms, the private sector should be given a more prominent role in making capacity-building more efficient.

The Post-2020 Framework should be designed to take full advantage of synergies with the BRS Conventions and the Minamata Convention in all covered functions. This would help to increase coherence in the chemicals and waste cluster and facilitate joint implementation at the national level.

After the analysis of the functions of the Post-2020 Framework for the sound management of chemicals and waste, the report identifies and discusses different options for the institutional form of the Post-2020 Framework. The options vary in their degree of ambition, but they all seek to respond to the weaknesses identified in the

functions of the current international chemicals and waste management framework and to the projected trends in global chemicals production, use, and impacts.

The voluntary SAICM has provided an inclusive and broadly framed mechanism for global cooperation. Nevertheless, a central weakness of SAICM is that it has not worked in a sufficiently strategic way. In order to realise a more strategic approach, the Overall Orientation and Guidance (OOG) document should be properly implemented. Given the high political relevance of Agenda 2030 and the critical contribution of the OOG to the 2020 goal on SMCW, these instruments are taken as fundamental guidance in the institutional proposals elaborated in the report.

The proposed options for reform cover a range of choices of instruments (non-legal and legal), reflecting various levels of ambition. At the very basic level, SAICM stakeholders will need to renew the relevance of the Johannesburg Plan of Implementation beyond 2020. In this respect, any new declaration, framework, or agreement should re-affirm the central importance of SMCW to the realisation of Agenda 2030, and in particular goals 3.9, 6.3, 12.4, 12.5, and 14.1. However, all SDGs address chemicals and waste in one way or another, given that they affect almost all aspects of development, so it is necessary to make effective linkages to a broad spectrum of SDGs.

At a higher level of ambition, the participatory ICCM could host the adoption of a new transnational or international agreement targeting a broad and dynamic range of hazardous chemicals and waste. Under an improved voluntary approach scenario (referred to in the report as "Beyond 2020"), SAICM would carry on in the form of a legally non-binding instrument, playing a supportive role to governments in their implementation of Agenda 2030 and the international legal regime for chemicals and waste.

A different scenario under the voluntary approach could take the form of a commitment to take enhanced actions on SMCW at the national level, on a range of specifically negotiated issues (for example, the 11 elements of the OOG). Government stakeholders would essentially agree to implement progressive SMCW measures and to report them periodically to a body such as the ICCM. A collective progress evaluation by an independent expert body would examine national action plans and make recommendations, allowing for a periodic review of progress. The adoption of this type of an independent iterative review mechanism would promote active implementation amongst governments and encourage a systemic re-evaluation of regulatory efforts, while conserving the dynamic, flexible, and voluntary nature of SAICM.

The adoption of a framework agreement on chemicals and waste would be a progressive development signifying a shift away from the trend of fragmented environmental governance. The framework agreement would embody fundamental

SMCW principles and would be complemented by either (a) international standards, (b) voluntary guidelines, or (c) protocols for different (groups of) chemical substances.

Under one scenario, the core elements of SAICM could even be integrated as the SAICM Protocol to the new framework agreement. In the same vein, it has been proposed that the BRS Conventions be integrated as protocols in a global chemicals and waste convention. This would provide ample opportunity to continue efforts towards the consolidation of elements, as needed to further maximize synergies between the existing chemicals and waste treaties.

# 1. Introduction

The aim of the present study is to enhance the knowledge base of policy-makers and other relevant stakeholders by providing innovative and value-added solutions with a Nordic angle to support more informed decision-making for the creation of an ambitious Post-2020 Framework for the sound management of chemicals and waste. The study discusses functions and forms for the new framework needed to set standards and mobilize actions to prevent or minimize the human and environmental health risks associated with the global spread and accumulation of hazardous chemicals and waste, in order to achieve sustainable development in light of the 2030 Agenda for Sustainable Development. The study is intended to provide early input to the intersessional process preparing for a continuation of the Strategic Approach and sound management of chemicals and waste beyond 2020.

The study reviews the *functions* of the Post-2020 Framework. These comprise of a set of vital functions of SAICM with the idea of identifying the gaps and strengths in the current international management framework. Within this context, the study also focuses on identifying best practices from other international bodies and processes that could be used in modelling the Post-2020 Framework. As a result, the study provides recommendations for incremental improvements of the functions of international chemicals and waste management.

Apart from the set of functions of SAICM, the study discusses a number of specific *cross-cutting questions* that are highly relevant for the development of the Post-2020 Framework. These include support to and from the implementation of the 2030 Agenda for Sustainable Development, as well as synergies with multilateral environmental agreements (MEAs) in the chemicals and waste cluster. Examples from other international environmental regimes are referred to throughout the study. Importantly, emerging issues of the circular economy and sustainable chemistry are briefly discussed as well. The study intends to show how the Post-2020 Framework can support the cross-cutting themes that run through the entire study.

Lastly, the study discusses different options for the *institutional form* of the Post-2020 Framework for sound management of chemicals and waste. Building on the “form follows function” principle used in the study, the assessment provides a number of options for the form of the Post-2020 Framework. While the options vary in their degree of ambition, they all seek to respond to the weaknesses identified in the functions of the current international chemicals and waste management framework, and to the projected trends in global chemical production, use, and impacts.



## 2. Background

### 2.1 SAICM: an overview

The beginning of the 1990s saw increasing concerns about the environmental and health risks of chemicals. The 1992 United Nations Conference on Environment and Development (UNCED) addressed these concerns by defining six priority programme areas for action in order to ensure the environmentally sound management of chemicals.<sup>1</sup> UNCED essentially catalysed the negotiation of numerous global and regional chemicals-related treaties and other instruments, facilitated by the UN Environment Programme.

The 2002 World Summit on Sustainable Development again drew attention to waste and chemicals issues and renewed the commitment of UNCED. The Johannesburg Plan of Implementation introduced a far-reaching target: “by 2020, [that] chemicals are used and produced in ways that lead to the minimization of significant adverse effects on human health and the environment.”<sup>2</sup>

The Plan of Implementation further called for action on the development of a “strategic approach to international chemicals management”. This objective launched a series of preparatory meetings, facilitated and supported by the UN Environment Programme. The negotiations led to the creation of the Strategic Approach to International Chemicals Management, which was adopted at the International Conference on Chemicals Management (ICCM) in Dubai on 6 February 2006 (Tuncak and Ditz 2013). The preparatory process was characterized by remarkably broad stakeholder participation, which also left its marks on the outcome instrument.

SAICM is a global policy framework to promote chemical safety. Its overall objective is “to achieve the sound management of chemicals throughout their life cycle so that, by 2020, chemicals are used and produced in ways that lead to the minimization of significant adverse effects on human health and the environment.”<sup>3</sup> SAICM addresses chemicals policy throughout the life-cycle of chemicals, using a

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<sup>1</sup> “Environmentally sound management of toxic chemicals, including prevention of illegal international traffic in toxic and dangerous products”, Chapter 19 of the Agenda 21.

<sup>2</sup> Para. 23.

<sup>3</sup> Overarching Policy Strategy para. 13.

comprehensive and cross-sectoral approach.<sup>4</sup> One of the main aims of the framework is to close the gap in sound chemicals and waste management between developed and developing countries. The framework is broad in scope, covering environmental, economic, social, health, labour, and trade-related aspects of all chemicals in global use. A salient feature of SAICM, from its negotiation to its implementation, has been the prominent engagement of non-governmental actors.

As a voluntary and multi-stakeholder policy framework, SAICM provides a flexible and inclusive approach to address emerging issues related to the global production, use, and trade of chemicals. These issues remain beyond the regulatory scope of current multilateral environmental agreements. In this regard, it is important to note that SAICM was established partly in response to the significant regulatory gaps in the existing international legal framework for chemicals and waste.<sup>5</sup> In the absence of a comprehensive global agreement regulating the full range of chemicals and waste in global production and trade, SAICM can be viewed as an essential and unique vehicle for fostering international cooperation on the sound management of chemicals. The framework also functions as a bridging mechanism between the narrowly construed MEAs pertaining to chemicals and waste, which include the Stockholm, Rotterdam, Basel, and Minamata Conventions.

SAICM is composed of three fundamental instruments:

1. *The Dubai Declaration*, which expresses high-level political support for the framework.
2. *The Overarching Policy Strategy (OPS)*, which contains the five key thematic objectives of SAICM: (1) risk reduction, (2) knowledge and information, (3) governance, (4) capacity-building and technical cooperation, and (5) illegal international traffic in chemicals. The OPS also lays down the scope, needs, underlying principles, and approaches of SAICM and elaborates on implementation and progress review mechanisms.
3. *The Global Plan of Action*, which is an evolving and practical toolkit for implementation that currently lists more than 270 activities that can be undertaken by diverse stakeholders to operationalize SAICM.

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<sup>4</sup> Dubai Declaration on International Chemicals Management, para. 11.

<sup>5</sup> Dubai Declaration on International Chemicals Management, para. 6.

SAICM also addresses thematic policy concerns. Recognised emerging policy issues are: lead in paint; chemicals in products; hazardous substances within the life-cycle of electrical and electronic products (e-products); nanotechnologies and manufactured nanomaterials; endocrine-disrupting chemicals; and environmentally persistent pharmaceutical pollutants. In addition, there are two recognised issues of concern: perfluorinated chemicals and highly hazardous pesticides.

From the beginning, SAICM was linked to the 2020 goal, planned to run until 2020, after which it needs a renewed mandate to continue. At ICCM<sub>4</sub> in 2015, the adoption of Resolution IV/4 set in motion an intersessional process to consider the role of the Strategic Approach in the international sound management of chemicals and waste after 2020, and to make recommendations in this regard. Members agreed to a meeting schedule for the intersessional process in the period leading up to ICCM<sub>5</sub>, which is to be held in 2020. The preparatory process is open to all stakeholders.

## 2.2 Chemicals and waste management today and future trends

According to the 2012 *Global Chemicals Outlook*, the size of the chemicals industry has grown almost exponentially since the 1970s. The global chemicals output was valued at USD 171 billion in 1970; by 2010, it had grown to USD 4.12 trillion (UNEP 2012a). Another estimate puts the global chemicals output (excluding pharmaceuticals) at USD 3 trillion in 2015 (Euler Hermes Economic Research 2016). The European Chemicals Agency (ECHA) has registered nearly 15,000 chemicals on the European market alone and provides information about the hazard classification and labelling of some 120,000 different chemical substances.<sup>6</sup> UNEP has estimated that there are 140,000 chemicals on the global market (UNEP 2012a), of which only a fraction have been thoroughly evaluated to determine their effects on human health and the environment.

Chemical consumption in developing countries is growing remarkably faster than in developed countries and is predicted to account for a third of global consumption by 2020 (UNEP 2012b). Gradually, developing countries and countries with economies in transition have become the driving forces behind the global expansion of chemicals production and use. Not only are these countries becoming central sites of chemicals manufacturing, in some cases they also have rapidly expanding domestic consumer markets. These manufacturing and consumption trends also have implications on

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<sup>6</sup> See e.g. ECHA: "Information on chemicals", <https://echa.europa.eu/information-on-chemicals>

hazardous waste generation. Waste from products containing chemicals that are hazardous to human and environmental health are an increasing source of concern in many developing countries, where regulatory frameworks for environmentally sound waste management are often weak, non-existent, or poorly enforced (UNEP 2012a).

Environmental pollution caused by poorly managed chemicals and waste is one of the largest causes of illness and death in developing countries (UNEP *et al.* 2015). On a global scale, it is estimated that unsound management of chemicals results in to at least 1.3 million deaths per year. This figure, likely to be an underestimation, represents 2.3% of the total deaths (WHO 2016). It is estimated that excessive exposure to and inappropriate use of pesticides contribute to poisoning a minimum of 3 million people per year (UNEP 2016). Exposure to harmful chemicals is also a concern in developed countries, especially related to such chemicals in food and consumer products and associated risks to vulnerable groups like children and pregnant women, and as a challenge in relation to the circular economy.

Despite major accomplishments in international chemicals management, which include the adoption of a network of multilateral and regional environmental agreements and the broadly envisioned SAICM policy framework, chemicals in contemporary global production and use remain a major source of global human health and environmental problems. In developing countries, where chemicals used for agricultural and industrial purposes are often not effectively regulated, safely used, or environmentally disposed of, the human population continues to face grave toxic risks through the chemical pollution of air, water, soil, and food Aaron (Blair *et al.* 2016; Kumar *et al.* 2016). Furthermore, chemical pollution has devastating implications for biodiversity, wildlife, and ecosystem services in all parts of the world, for instance as witnessed recently by the particularly aggressive decline in pollinator levels resulting from pesticide use (IPBES 2016). In addition to environmental and health impacts, chemical pollution can have significant negative economic impacts: losses to agriculture, detrimental effects on the quality of drinking water, public health costs, and negative impacts on revenue derived from recreation and tourism.

In a report submitted to the 33rd session of the Human Rights Council, the UN Special Rapporteur on Hazardous Substances and Waste draws explicit attention to the extensive economic losses caused by toxic chemical use, such as the continued use of lead in paint, which amounts to a loss of approximately USD 1 trillion for developing countries (Attina and Trasande 2013), as well as endocrine-disrupting chemicals in cosmetics and food, which result in a loss of EUR 100 billion for the European Union. It is important to recognise that the sound management of chemicals can make sense from an economic perspective and can lead to monetary gains. For instance, it is

estimated that the benefits from the removal of lead from gasoline on a global scale saves USD 2.4 trillion per year, or 4 per cent of the global GDP (UNEP 2012a).

Industrial chemicals are widely used across all sectors. The rapid industrialization of agriculture worldwide has led to an intensification in the production and international trade of chemical-synthetic pesticides. Widespread availability of highly hazardous pesticides in both legal and illegal markets worldwide poses a significant global health challenge to both developed and developing countries. The recent seizure of 10.5 tonnes of banned pesticides and 10.5 tonnes of falsely labelled insecticides imported into the European Union from China clearly illustrates the global magnitude of illegal chemicals production and trade (OLAF 2014). It is critical to note that the problem is not limited to agricultural chemicals, but also pervades chemicals used in industrial production and as part of products, as well as the pharmaceutical industries (World Economic Forum 2011). Pharmaceutical crime, which involves the manufacture or distribution of counterfeit pharmaceuticals sold through illicit and licit supply chains, is an important public and environmental health concern on a global level. In 2015, an Interpol-coordinated operation (Operation Pangea VIII) involving 115 countries led to the seizure of 20.7 million counterfeit and illicit medicines and the elimination of 2,414 websites of illicit online pharmacies. Illicit medicines are not only harmful upon consumption and disposal, they are also most likely manufactured in conditions that are detrimental to workers and the environment. Further, chemicals are used in practically all industrial sectors and included in a wide range of products that are globally traded, leading to human and environmental exposure far from the production site.

Moreover, as the global waste economy continues its shift from widespread practices of final disposal to a re-use, recycling, and recovery paradigm (reflected in concepts such as the “circular economy” and “cradle-to-cradle design”), there is an urgent need to eliminate human health and environmental problems caused by hazardous chemicals and waste emitted through unsound recycling industries. Fostering sustainable and inclusive global recycling networks can contribute significantly to resolving public health and environmental pollution issues linked to municipal waste management in developing countries. As one of the major environmental issues of the 21st century, the global problem of hazardous substances within the life-cycle of electrical and electronic products (e-products) has been adopted as an emerging policy issue under SAICM (SAICM 2009).

While the environmentally sound recycling of e-products is an essential dimension of contemporary waste management, many developing countries do not have the technical infrastructure or regulatory framework in place necessary to ensure that

waste collectors, dismantlers, recyclers, and their extended communities do not suffer negative health impacts. E-products that have reached their end-of-life are dismantled and burned in the open air across Asia, Africa, and Latin America. These regions are forced to deal with waste generated from e-products consumed domestically, as well as waste generated from e-products that have been exported to them (legally or illegally) from North America and Europe, where recycling is more expensive and subject to more stringent environmental and occupational health regulations. The rapid growth of toxic waste from e-products has been singled out by successive UN Special Rapporteurs as one of the most important human rights concerns for developing countries, where large informal recycling industries implicating children and other vulnerable, marginalized social groups operate under highly exploitative and dangerous conditions.

**Figure 1: Waste from e-products is dismantled and burned while remains are left beside the lagoon at an informal e-waste recycling site in Agbogbloshie, Ghana**



Source: Sabaa Khan.

The number of new concerns for human health and the environment from hazardous chemicals and waste increases as knowledge becomes available. National and regional regulatory frameworks for chemicals and waste management are not always capable of addressing these emerging issues in a timely or effective manner. At the

international level, the failure of existing MEAs to address relevant emerging concerns that fall outside their narrow regulatory scope places an ever-growing burden on SAICM to address a constantly expanding range of issues (see Table 1).

**Table 1: A summary of how the current global chemicals and waste governance system addresses specific issue areas**

BRS and Minamata Conventions	SAICM - Emerging Policy Issues	SAICM - Issues of Concern	SAICM – unaddressed issues
POPs	Lead in paint	Perfluorinated chemicals	Air pollution including black carbon
Mercury	Chemicals in products	Highly hazardous pesticides	Plastic debris and microplastics
Transboundary movements of hazardous and other wastes	Hazardous substances within electrical and electronic products		Toxic heavy metals such as cadmium and lead (other than lead in paint)
Hazardous chemicals and pesticides in international trade	Nanotechnologies and manufactured nanomaterials		Effects of mixtures of chemicals
	Endocrine-disrupting chemicals		Radioactive substances
	Environmentally persistent pharmaceutical pollutants		Underwater munitions
			Synthetic biology
			Noise
			Antimicrobial resistance

Plastic debris and microplastics belong to one of the many recent emerging concerns. A number of partnerships and other voluntary agreements, including the Honolulu Strategy, have been established to deal with waste management and marine litter. Thus far, a more comprehensive or even legally binding global approach to the problem is lacking, including under SAICM.

**Plastic pollution as a global chemicals and waste issue**

Global production of plastics has increased from 2 million tons in 1950 to 322 million tons in 2015. At the same time, the revenues of chemical companies manufacturing plastics have reached about USD 750 billion. Plastics are cheap, durable, and versatile, and provide numerous benefits as packaging for consumer goods or in manufacturing. However, the vastly increased quantity of

plastics, in conjunction with the lack of waste collection systems in many countries, has led to a global environmental problem in the form of marine litter and microplastic pollution. Today, between 4.8–12.7 million tons of plastic are reaching the oceans per year, the largest share of which comes from packaging materials and plastic bottles. To start with, these macro-pieces of plastic can be ingested by or entangle animals and cause other kinds of harm to almost 800 species. They are transported across the oceans and can float around for decades, being washed up on distant shores and sinking to deeper sea levels or to the ocean floor. As a result, plastic can now be found in all oceans, in all major rivers and lakes, and even in remote areas such as glacial lakes or polar ice. Over time, larger pieces break down into microplastics, which are defined as particles less than 5 mm in diameter. These are often ingested by animals and can thus enter the food chain, so that a third of fish caught at sea now contain microplastic particles. Apart from the harm caused to wildlife, plastic pollution also comes with high costs to economically important sectors such as tourism, because of the need to regularly clean up beaches, and the fishing industry. While the dumping of plastic waste at sea is prohibited under UNCLOS and MARPOL, neither treaty is fully implemented, and issues like ghost fishing caused by plastic nets lost at sea remain problematic. Furthermore, there is no binding agreement or other effective framework prohibiting or even limiting plastic waste from land-based sources entering the oceans.

With chemicals implicated in almost all aspects of our daily lives, it is imperative for the global community, from citizens and consumers to regulatory bodies, to understand their full benefits and risks. Furthermore, as non-renewable resources are further constrained by the demands of an expanding materials-based global economy, there is a pressing need for innovative product manufacturing systems based on the transformation of waste into resources. In this regard, one of the greatest challenges faced by those involved in chemicals science and policy is to highlight the centrality of chemicals and waste management to all aspects of development: social, economic, environmental, and cultural.

Conventional approaches to waste management, under which the latter is dealt with as a municipal-level technical management concern from an end-of-pipeline perspective, need to be replaced. Our global commitment to sustainable development requires that chemicals and waste management be recognised as a fundamental and cross-cutting area of the world economy. This is also the central aim of the Sustainable Development Goals, especially Targets 3.9 and 12.4. An effective and efficient global regime for chemicals and waste management requires the meaningful engagement of regulators, industries, and citizens across all socio-economic sectors.

Historically, the management of chemicals and waste has been treated as a specialist technical issue or area of scientific expertise, instead of being seen as an integral aspect of sustainable development that is relevant to all stakeholders in the global economy. While issues such as climate change and stratospheric ozone depletion



have succeeded in gaining the international political momentum necessary to incite concrete actions, including policies and funding aimed at protecting human and environmental health from their associated risks, the issue of environmental pollution and global health contamination from chemicals and waste has yet to be treated with similarly great concern. The 2020 deadline presents an opportune moment to transform traditional perceptions of chemicals and waste management and to bring the issue to the forefront of the 2030 Agenda for Sustainable Development.

### 2.3 Recent initiatives on sound management of chemicals and waste at all levels

At the global level, UNEP has taken a leadership role in continuously enhancing international cooperation on the sound management of chemicals and waste. Among its wide-ranging activities on chemicals and waste, UNEP has undertaken secretariat duties for the relevant conventions, advanced cooperation and coordination within the chemicals and waste cluster of treaties, and explored global financing options for chemicals and waste. Recently, the second session of the United Nations Environment Assembly (UNEA-2), held in May 2016, specifically addressed the issue of chemicals and waste. The Assembly adopted a resolution (2/7) on the sound management of chemicals and waste whereby the Executive Director of UNEP was requested to, inter alia, “[c]oordinate with relevant international stakeholders and support Member States, as appropriate, on policies and actions on the sound management of chemicals and waste for the achievement of relevant Sustainable Development Goals and targets.”

Chemicals and waste management has also been addressed within multiple cooperative contexts on regional and sub-regional scales. Resource efficiency, chemicals management, and the 2030 Agenda were some of the focal issues of discussion at the G7 Toyama Environment Ministers’ Meeting (EMM) held in May 2016. In a communiqué following the EMM, the G7 and European Union reaffirmed their commitment “to achieve, by 2020, the sound management of chemicals throughout their lifecycle and of hazardous waste in ways that lead to the minimization of significant adverse effects on human health and the environment, notably under the auspices of the Basel, Rotterdam, Stockholm and Minamata Conventions and the Strategic Approach to International Chemicals Management.” They also signalled their intention to “remain engaged in accelerating the ongoing international discussions” under SAICM on ESM of chemicals and waste beyond 2020, while also emphasising the important role played by the Conference of the Parties to

the BRS Conventions and stressing the importance of long-term policies beyond 2020. In their communiqué, the G7 members also address chemicals in the context of children's environmental health, in particular the need for "long-term, large-scale epidemiological studies to understand how chemicals in the environment affect children's health and growth."

Agenda 2030 has also emerged as a high priority for the G20 group. At the G20 Hangzhou Summit in September 2016, G20 countries pledged to enhance policy coherence on sustainable development and reaffirmed their commitment to implementing Agenda 2030. While the G20 Action Plan on Agenda 2030 does not mention chemicals management explicitly, it explains that the G20 prioritized collective actions towards implementing Agenda 2030 are framed within the following Sustainable Development Sectors (SDS): Infrastructure, Agriculture, Food Security and Nutrition, Human Resource Development and Employment, Financial Inclusion and Remittances, Domestic Resource Mobilization, Industrialization, Inclusive Business, Energy, Trade and Investment, Anti-Corruption, International Financial Architecture, Growth Strategies, Climate Finance and Green Finance, Innovation, and Global Health. As the sound management of chemicals and waste is a major intrinsic aspect of many of these SDSs (in particular, infrastructure, agriculture, employment, industrialization, innovation, and global health), it can be viewed as entering into the scope of the G20 priorities on Agenda 2030 in a cross-cutting manner. Moreover, the high-level principles contained in the G20 Action Plan that are intended to guide member states in their collective and individual implementation of Agenda 2030, emphasising the indivisible and integrated nature of Agenda 2030 and the importance of mobilising financial resources and enhancing international support for developing countries to achieve all SDGs.

Commitment to the implementation of Agenda 2030 through the G20 Action Plan on Agenda 2030 is also reaffirmed in the Goa Declaration adopted by Brazil, Russia, India, and China at the 8th BRICS Summit. In the Goa Statement on the Environment, which was also adopted at the 8th Summit, BRICS countries recognise the importance of abating air and water pollution and commit to sharing expertise in this regard through regulatory and technical cooperation. They also highlight the importance of efficient waste management for healthy ecosystems and commit to enhancing mutual cooperation in this area.

## 2.4 The EU framework on chemicals management

The implementation of SAICM, as well as of any international chemicals convention, is mostly a matter of national policy-making. Regional initiatives play an important role, since they seek to ensure coherent and coordinated policy-making in the area. The European Union offers the best example of a well-developed regional chemicals regulatory regime.

The EU has set up comprehensive chemicals legislation. The most important instrument in the EU chemicals regulation is REACH,<sup>7</sup> the Regulation that is concerned with the registration, evaluation, authorisation, and restriction of chemicals. It specifies four processes through which intrinsic properties of chemical substances would be identified better and earlier. The Regulation, which came into force in 2007, makes the chemical industry responsible for the identification and information of the chemical substances that they produce. Information on the intrinsic properties, hazards, and specific uses of chemical substances has to be registered in a central database operated by the European Chemicals Agency, based in Helsinki. Importantly, the regulation has adopted a risk-based approach and places increased responsibility on private actors.

Besides REACH, the EU has adopted the Regulation on the Classification, Labelling and Packaging of Substances and Mixtures (CLP).<sup>8</sup> The Regulation incorporates UN-level rules on the theme and obligates companies to classify, label, and package chemical substances appropriately before placing them on the market. In addition, there is a significant amount of EU regulation concerning requirements regarding chemicals in selected products and sectors, which complements the REACH and CLP Regulations. The specialist legislation includes, inter alia, the Toy Safety Directive<sup>9</sup>, the Regulation on Cosmetic Products,<sup>10</sup> the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Directive,<sup>11</sup> and the Packaging and Packaging Waste Directive.<sup>12</sup>

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<sup>7</sup> Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

<sup>8</sup> Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

<sup>9</sup> Directive 2009/48/EC of the European Parliament and of the Council of 18 June 2009 on the safety of toys.

<sup>10</sup> Regulation (EC) No 1223/2009 of the European Parliament and of the Council of 30 November 2009 on cosmetic products.

<sup>11</sup> Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

<sup>12</sup> European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste.

The EU legislation on chemicals could affect the relevant international regulatory developments. According to Biedenkopf, some elements of the REACH Regulation, such as the data, the regulatory design, and the level of ambition, can have such external effects (Biedenkopf 2015). For instance, the EU chemicals data can be used to fill data gaps, which can then shape and influence regulatory decisions. External effects may also be created through learning from EU experiences by policy-makers. SAICM could be regarded as a kind of testimony to the fact that the REACH Regulation has contributed to international chemicals regulation. REACH can be considered as the EU's contribution to SAICM. The EU's adoption of REACH and engagement in SAICM were simultaneous processes. Arguably, the EU strove to insert its views on chemicals regulation, as expressed in the REACH proposal at the time, into the SAICM policy framework (Biedenkopf 2015).

## 2.5 Nordic initiatives and sound management of chemicals and waste

### 2.5.1 *The Arctic Council*

The Arctic Council (AC) is an intergovernmental forum comprising the eight Arctic states as members, including the United States, the Russian Federation, Canada, and the five Nordic countries. It also includes six international organizations representing indigenous Arctic peoples as Permanent Participants. The AC was established in 1996 with the primary objective of fostering cooperation among its members and Permanent Participants on "common Arctic issues, in particular issues of sustainable development and environmental protection in the Arctic."<sup>13</sup> It is in this context that various AC initiatives address the sound management of chemicals and waste.

The AC carries out its work through six thematic Working Groups and three Task Forces as well as subsidiary bodies (expert groups) established to address specific issues. Activities, studies and assessments by the Working Groups cover various aspects of the Arctic environment, climate and communities, and provide the basis for official recommendations and decisions. The Arctic Monitoring and Assessment Program (AMAP) is assigned to monitor the status and the threats of contaminants and adverse effects of climate changes to in the Arctic environment, and to provide scientifically based advice (science-based assessments) on the status of the Arctic

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<sup>13</sup> Declaration on the Establishment of the Arctic Council, Ottawa, Canada, 19 September, 1996. Article 1(a).

region in relation to climate change and pollution issues, and on actions to be taken. The Contaminants Action Program (ACAP) Working Group is to establish projects, strengthen knowledge, and provide support on national actions aimed at preventing, reducing, and ultimately eliminating the release of contaminants into the Arctic environment, including chemicals and waste. In particular, past and current work of the ACAP has targeted mercury, obsolete pesticides, dioxins and furans, PCBs, and other hazardous waste.

The AC's mandate is mainly of a cooperative and advisory nature (with no enforcement authority over its members), yet in recent years it has served as a forum for the successful negotiation of two legally binding agreements between its member states on maritime search and rescue and on marine oil pollution in the Arctic<sup>14</sup>. Since its inception, the AC has played an unprecedented role in terms of producing scientific knowledge on the Arctic (Kankaanpää and Young 2012). Scientific assessments carried out by the Arctic Council Working Groups inform international environmental negotiation processes. For instance, the AC's scientific assessments showing long-range transboundary deposition of POPs and mercury in the Arctic region played a significant role in triggering discussion at an international level, which eventually led to the adoption of the Stockholm Convention on POPs in 2001, and later on the Minamata Convention on mercury in 2013. More recently, the 2015 adoption of the Arctic Council *Framework for Action on Enhanced Black Carbon and Methane Emissions Reductions* illustrates that the AC can serve as a forum for Arctic states to elaborate climate mitigation goals under a common vision, in the absence of international legal instruments addressing short-lived climate pollutants. A third binding agreement on science cooperation is under preparation and is expected to be signed at the Arctic Ministerial in 2017.

The AC provides an opportunity for an important Nordic influence on the Arctic – with the participation of big nations such as the United States, the Russian Federation, and Canada – at the global environmental governance level. This takes place in particular on contemporary regulatory issues that implicate substantial transformations of the Arctic environment, as well as of the rest of the world. Monitoring hazardous chemicals, notably POPs and waste releases, has a high priority. The AC's participatory approach to addressing environmental and human health hazards affecting the Arctic region, and, in particular, its strength in producing scientific knowledge on cutting-edge regional environmental issues of relevance to regional and global governance, can be

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<sup>14</sup> Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic (12 May, 2011); Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic (15 May, 2013).

highly informative to SAICM stakeholders in the development of a Post-2020 Framework for sound management of chemicals and waste.

### **2.5.2**     *The Nordic Council of Ministers*

The Nordic Council of Ministers, founded in 1971, is the official body of intergovernmental cooperation in the Nordic region. It comprises Denmark, Finland, Iceland, Norway, Sweden, and the Faroe Islands, Greenland, and Åland. The prime ministers of the member states have overall responsibility for cooperation, but in practice the relevant ministers participate in the cooperation.

The work of the Council of Ministers focuses on the promotion of the development of the Nordic region and on Nordic cooperation among the member states and internationally. The recently renewed vision of the Council focuses on freedom of movement, innovation, visibility, and international engagement.

The Nordic Council of Ministers, together with the inter-parliamentary body of the Nordic Council, deals with a wide variety of issues, ranging from nutrition recommendations and efforts to combat human trafficking to Nordic climate solutions and the Nordic bioeconomy. The Council is engaged with research and policy-making with regard to chemicals. There are several chemicals-related project groups, such as the Nordic Risk Assessment Project on chemicals and the Nordic Screening Group, which focuses on knowledge of the prevalence and spread of harmful chemicals in the Nordic area and the Arctic. The special groups provide funding for projects that fall within their remits and that correspond with the priorities set each year.

## 3. Key values and vision for the Post-2020 Framework

### 3.1 Building on the 2030 Agenda for Sustainable Development and the SAICM OOG

At the Rio+20 Conference on Sustainable Development, held in 2012, the international community launched an intergovernmental process for the elaboration of a new set of Sustainable Development Goals that would, *inter alia*, build on the Millennium Development Goals (MDGs) adopted in 2000, with the difference of having a more global character. The resulting 2030 Agenda for Sustainable Development, which includes 17 new Sustainable Development Goals (SDGs), was adopted by more than 150 states at the UN Sustainable Development Summit in 2015 in New York.

There are numerous linkages between the SDGs and SAICM's overarching objective. As such, the SDGs provide an unprecedented opportunity for the mainstreaming and integration of sound chemicals and waste management into a broad and ambitious new sustainable development agenda of high political relevance and global commitment. This could involve facilitating the establishment of, or strengthening, existing national regulatory structures and other mechanisms, as well as enhancing information exchange for the implementation of the SDGs in the MEAs that deal with chemicals and waste.

All SDGs are linked in one or several dimensions to the environmentally sound management (ESM) of chemicals and waste – given that chemicals and waste affect almost all aspects of development. Certain SDGs are highlighted below.

SDG 3 on Good Health and Well-Being addresses the need to ensure human health protection from hazardous chemicals that evidently contribute to death and illnesses via environmental contamination through soil, water, and air pollution.<sup>15</sup> Additionally, SDG 6 on Clean Water and Sanitation emphasizes the critical role for environmentally sound management of chemicals and waste in safeguarding water

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<sup>15</sup> Target 3.9, SDG 3.

quality and thus ensuring access to water and sanitation for all.<sup>16</sup> The most directly relevant targets from SDGs 3 and 6 (and 12 and 14) are reproduced in Table 2, below.

The environmentally sound management of chemicals and waste is explicitly addressed in SDG 12 Sustainable Consumption and Production, under Target 12.4:

By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.

A notable difference between the 2020 goal as elaborated under SAICM and as expressed under SDG Target 12.4 is that while the earlier 2020 goal was to minimize “significant” adverse impacts on human health and the environment, the 2020 goal under the SDGs is now simply to minimize all adverse impacts on human health and the environment. The 2030 Agenda has broadened the scope of the 2020 target to include all waste, not only hazardous waste, in accordance with the outcome document of the Rio+20 Summit in 2012.<sup>17</sup>

**Table 2: SDGs that have the clearest links to chemicals and waste management**

Target	Description of the target
Target 3.9	By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination
Target 6.3	By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally
Target 12.4	By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment
Target 12.5	By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse
Target 14.1	By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution

<sup>16</sup> Target 6.3, SDG 6.

<sup>17</sup> Rio +20 Outcome Document ‘The Future We Want’, UNGA Res. 66/288 of 11 September 2012, para. 213.



The explicit linkage of the 2020 goal in Target 12.4 fosters clear synergies between the SDGs and SAICM. In terms of understanding the practical dimensions of Target 12.4, one could draw on SAICM's Overall Orientation and Guidance, which was adopted in 2015 at ICCM 4, to clarify the concrete aspects of the 2020 goal and to simplify SAICM implementation for all relevant stakeholders.<sup>18</sup> The Overall Orientation and Guidance for Achieving the 2020 Goal (OOG) effectively organizes the broad and generalized 2020 goal into a set of 11 concise basic elements that constitute the core of environmentally sound management of chemicals and waste and thus can be used to provide insight into progress towards achievement of the 2020 goal at national and regional levels.

Before the adoption of the OOG, it was far more complex to navigate the fundamental aspects of SAICM. While the OPS lays out the general approach of SAICM and clarifies its interlinkage with existing international instruments, it does not offer insight into the substantive aspects of implementation. The GPA, on the other hand, links the five objectives of the OPS with specific work areas, associated activities, actors, timeframes, indicators of progress, and implementation aspects. However, there is no clear prioritisation of the more than 270 activities listed. The more problematic aspects of the GPA concern indicators of progress. The numerous activities, generalized indicators, and vague implementation guidance give the impression that the GPA falls short of offering a cohesive, systematic strategy for SAICM implementation. For this reason, the adoption of the OOG should be seen as a progressive and much-needed development.

**The set of 11 basic elements critical to the attainment of the sound management of chemicals and waste (SMCW), as elaborated in the OOG**

- Legal frameworks that address the life cycle of chemicals and waste;
- Relevant enforcement and compliance mechanisms;
- Implementation of chemicals and waste-related multilateral environmental agreements, as well as health, labour and other relevant conventions and voluntary mechanisms;
- Strong institutional frameworks and coordination mechanisms among relevant stakeholders;
- Collection and systems for the transparent sharing of relevant data and information among all relevant stakeholders using a life cycle approach, such as the implementation of the Globally Harmonized System of Classification and Labelling of Chemicals;
- Industry participation and defined responsibility across the life cycle, including cost recovery policies and systems as well as the incorporation of sound chemicals management into

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<sup>18</sup> Overall orientation and guidance for achieving the 2020 goal of sound management of chemicals, 29 June 2015, endorsed at ICCM4 in October 2015.

corporate policies and practices;

- Inclusion of the sound management of chemicals and waste in national health, labour, social, environment and economic budgeting processes and development plans;
- Chemicals risk assessment and risk reduction through the use of best practices;
- Strengthened capacity to deal with chemicals accidents, including institutional-strengthening for poison centres;
- Monitoring and assessing the impacts of chemicals on health and the environment;
- Development and promotion of environmentally sound and safer alternatives.

Source: Overall orientation and guidance for achieving the 2020 goal of sound management of chemicals, 29 June 2015, endorsed at ICCM4 in October 2015.

The international Post-2020 Framework on SMCW should build on the 2030 Agenda for Sustainable Development and the sustainable development goals. The SDGs provide an overarching and cohesive vision for future international policy-making, and thereby should form the fundamental basis of the post-2020 SMCW regime. This will enable the future framework to benefit from the funding sources and expertise of the United Nations system that are geared towards the implementation of the 2030 Agenda. In order to align the work of the Post-2020 Framework with the 2030 Agenda, all relevant SDGs should be explicitly mentioned in any prospective declaration or other instrument that might be negotiated to succeed the Dubai Declaration and to guide the work of the future regime. The intersessional process under SAICM presents a timely opportunity to further enhance the growing momentum towards implementing the SDGs.

## 3.2 Key values and priorities for the Post-2020 Framework

### 3.2.1 *Good governance*

The term “good governance” implies appropriate processes for making and implementing decisions. The several dimensions of good governance include: accountability; transparency; rule of law; equality; effectiveness and efficiency; and participation. In the context of international chemicals and waste management, the realisation of good governance would involve the continuation of the multi-stakeholder approach of SAICM, integrated with an accountability and reporting mechanism to ensure effective follow-up of the implementation of commitments by governments at the national level. Furthermore, the obligations and guidelines should

be appropriate to members' capacities to take action, and binding commitments should have a proper legal basis. Effectiveness requires governance measures that factually reduce the harmful effects of hazardous chemicals and waste, and efficiency denotes cost-effective measures. Transparency refers to openness and clarity in governance in both processual and substantive senses, and involves the activities of all stakeholders.

### 3.2.2 Gender equality

The Dubai Declaration places emphasis on the importance of women's equal participation in chemicals management.<sup>19</sup> In the same vein, the SAICM Global Plan of Action refers to women as a highly vulnerable group whose protection is to be a priority issue in many working areas. Moreover, Goal 5 of the SDGs focuses on gender equality.

Women may have different susceptibility to the effects of toxic chemical exposure. Social and biological determinants mean that women have different susceptibility and exposure to chemicals than men. In addition, women's exposure to chemicals can have serious reproductive implications (Caterbow and Hausmann 2016). From the occupational health and safety perspective, both men and women face risks from the usage of chemicals and the existence of waste.

Involving women in decision-making and also in the implementation of strategies on the sound management of chemicals can have a far-reaching impact with respect to minimising chemical exposure to themselves, to their families, and in their communities (RFI 2008). Currently, women are under-represented in the governance of chemicals and waste at the international, regional, and national levels. It is commonly acknowledged that more research on gender and chemicals is needed to understand the linkages and impacts of chemicals and waste (UNDP 2011; Caterbow and Hausmann 2016) from a gender perspective, as well as to identify areas for future work. In particular, there is a need for gender-disaggregated information on the effects of chemicals (UNEP *et al.* 2016). Access to information and resources is important for any disadvantaged group to minimize harmful effects of chemicals.

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<sup>19</sup> Para. 18.

### **3.2.3 Consumer health protection**

The objective of consumer protection stresses the importance of safety or risk assessments and precautions in chemical and waste management. In practice, the aim is to protect consumers from damage to health from the use of chemical products. Consumer protection may best be realised by engaging the responsibility of producers (manufacturers of chemicals) and by providing information on product stewardship to users. Information management and the right to access information are key issues in protecting consumers from the harmful effects of chemicals and waste. There is an inherent and broader connection to human rights: consumer protection may be perceived as an element of the right to life, to health, and to a healthy environment, which are affirmed or referred to in numerous international and regional human-rights instruments, as well as national constitutions. The continued prevalence of toxic chemicals in toys and other products intended for children points to the urgency of strengthening consumers' right to know what is in the products they are using, and of obliging manufacturers to disclose toxicity information for all chemicals in their products.

### **3.2.4 Environmental protection**

The objective of environmental protection is to prevent health and environmental risks from chemicals and waste. A special focus within the SAICM context is on long-range transboundary and persistent chemicals. Access to information and participation are critical to realising the goal of environmental protection.

## **3.3 Vision for 2030 and beyond**

Improperly managed chemicals and waste pose an urgent global challenge. The effects are felt worldwide, due to long-range transport through air, water, and living organisms, the transboundary movements of wildlife harmed by chemicals or waste, and the circulation of hazardous chemicals and waste through international trade. The environmental and health effects from global flows of hazardous chemicals and waste include emissions from production processes, consumption of chemicals containing contaminated products, and transboundary ocean pollution through improper dumping.

### 3.3.1 *Protection from chemical and waste pollution as a human right*

Even though there is a tendency to see chemicals and waste from a technical regulatory perspective, it is also critical to acknowledge the impact of hazardous chemicals and waste on the enjoyment of human rights. The right to a healthy environment stipulated in the Brundtland report (1987) has been integrated into the constitutions of at least 95 countries. While the emphasis of the 2020 goal is to ensure that chemicals are used and produced in ways that minimize significant adverse effects on human health and the environment, the vision for 2020 and beyond needs to be much broader. There is only a single mention of human rights in the SAICM instruments (paragraph 10 of the Dubai Declaration), and even then there is no clear affirmation of how chemical and waste pollution infringe upon human rights. The future framework needs to address this missing link and affirm that environmental protection is in fact a precondition to the enjoyment of all human rights, as explained by the International Court of Justice in its *Gabcikovo-Nagymaros* decision:

the protection of the environment is . . . a vital part of contemporary human rights doctrine, for it is a sine qua non for numerous human rights such as the right to health and the right to life itself. It is scarcely necessary to elaborate on this, as damage to the environment can impair and undermine all the human rights spoken of in the Universal Declaration and other human rights instruments.

As such, hazardous chemicals and waste in global trade may affect the enjoyment of human rights affirmed in all major human rights instruments, including the Universal Declaration on Human Rights and the two International Covenants (on Economic, Social and Cultural Rights and on Civil and Political Rights). Specific categories of human rights worth recalling in the context of chemical and waste pollution include fundamental workers' rights stipulated in international labour standards of the International Labour Organization (ILO) and children's rights affirmed in the Convention on the Rights of the Child.

Taking into consideration that protection from chemical and waste pollution is a precondition for the enjoyment of human rights, it would be short-sighted for the future chemical governance regime to focus only on minimising significant adverse effects of chemical and waste pollution on human and environmental health. Rather than limiting our focus to the avoidance of the worst possible effects, the future global regime for chemicals and waste needs to be aimed at the sound management of all chemicals and waste throughout their life-cycle.

### 3.3.2 *Integrating human rights concerns into chemicals governance through green design and life-cycle thinking*

The key to the sound management of chemicals and waste lies first and foremost in ecological intervention at the product design level, through enhanced green design. This entails the elimination, to the largest extent possible, of the use of chemical substances that are hazardous to human and ecosystem health in production processes.

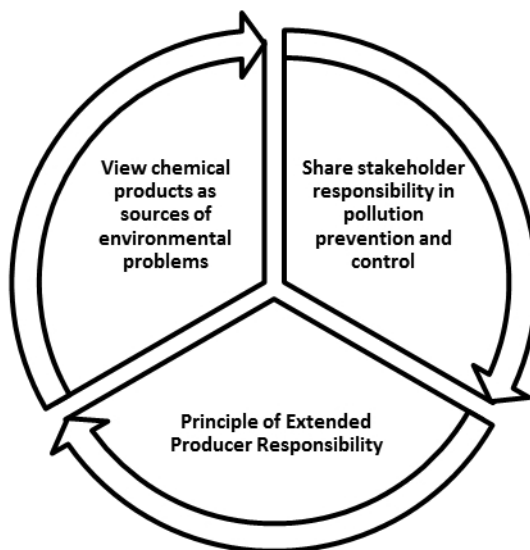
#### **Critical Elements of Enhanced Green Design**

- Envisioning chemicals and waste management as a main objective of industrial production.
- Management of hazards before product materialization.
- Elimination of toxic characteristics of products and zero-waste.
- Traceability of materials, energy use and chemical and waste impacts throughout product life-cycles.
- Reiteration of product design based on life-cycle learning.

Life-cycle thinking is a concept explicitly affirmed in the 2002 Johannesburg Plan of Implementation of the World Summit on Sustainable Development and strongly anchored in SAICM texts and activities. It essentially requires that stakeholders, in their decision-making, pay attention to environmental and health burdens throughout the entire physical existence of products – from raw material to waste – and not solely to those environmental burdens directly related to the production or consumption phase of the product in which they are involved (Heiskanen 2002).

In essence, life-cycle thinking affirms linkages between actors involved in the separate phases of a product system. In this way, it is a form of management that promotes extended stakeholder responsibility and accountability with regards to pollution prevention. In particular, the life-cycle approach centres on the principle of extended producer responsibility (EPR).

Figure 2: Life-cycle Thinking Approach



EPR is widely recognised as a principle that underlies different types of preventive environmental policies (Lindhqvist 1992). EPR can be seen as a way to realise sustainable development goals, as it ensures that trade is conducted within the constraints necessary to protect human and environmental health.

The EPR principle extends manufacturers' responsibility for a product beyond the production process, throughout the wider product cycle. It is considered an extension of the polluter pays principle, outlined in Principle 3 of the Rio Declaration, according to which the polluter should bear the cost of pollution. In practice, EPR is implemented through policy instruments, which may be:

1. *Administrative* (e.g. collection or take-back of products, fulfilment of reuse and recycling targets and environmental standards),
2. *Economic* (e.g. product taxes, subsidies, advance disposal fee systems, tradable recycling credits)
3. *Informative* (e.g. marking and labelling of product components, provision of information to consumers and recyclers about substances used and requirements for environmental disposal).

It should be noted that implementation of the EPR principle alone cannot ensure that chemicals containing waste products will be collected and treated in a sound manner; public policies addressing consumer responsibilities and establishing municipal collection and treatment systems are also necessary components of the sound management of chemicals and waste. Nevertheless, enhanced life-cycle thinking and the principle of EPR provide important guidance for the development of an effective Post-2020 Framework, as they place emphasis on the leading role that is required on the part of the chemicals industries in fostering sustainable global production networks and value chains.

Another salient consideration in the elaboration of a post-SAICM framework for the sound management of chemicals and waste is the issue of international harmonisation in the classification and labelling of chemicals. In particular, there is a need to ensure that both developed and developing countries strengthen implementation of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS). Originating from an international mandate for the development of a globally harmonized hazard classification and labelling system, under Agenda 21 adopted at the 1992 United Nations Conference on Environment and Development, the objectives of the GHS are to provide an internationally coherent system for the communication of hazards, provide a recognised classification and labelling framework for countries that have not established their own, reduce the need for the testing of chemicals, and facilitate trade with respect to chemicals that have been properly assessed (GHS 2015). The GHS is composed of harmonized criteria for the classification of chemical substances and mixtures based on their human and environmental health hazards, as well as harmonized hazard communication elements, notably labelling requirements and safety data sheets (GHS 2015). Implementation of the GHS is an integral dimension of the SAICM Global Plan of Action and should remain so within any prospective post-SAICM framework. Despite the successful evolution and widespread adoption of the GHS, the tracing of chemical substances in products throughout their life-cycle and across jurisdictions remains a prominent challenge.



## 4. Functions for the Post-2020 Framework

The aim of this section is to identify and assess the gaps and strengths in the current system of international chemicals management and to present existing best practices in the field. At the same time, it summarizes the achievements of SAICM and other initiatives in the area of international chemicals management.

### 4.1 Stakeholder participation and sectoral engagement

One of the major strengths of SAICM has been that it has involved states and other stakeholders as equal partners in its work. This has ensured broad participation and the presentation of different perspectives on issues, thereby enhancing the legitimacy of SAICM. To realise effective stakeholder participation, general awareness-raising is important; it provides motivation and tools to become active in the development and implementation of the policy framework. SAICM has managed to build a structure and policy environment that invites stakeholder engagement. For instance, according to the rules of procedure, four representatives of non-governmental participants and the chair of the Inter-Organization Programme for the Sound Management of Chemicals (IOMC) participate in Bureau meetings, forming a precedent for stakeholder engagement in the composition of a bureau of an intergovernmental body.<sup>20</sup>

The multi-stakeholder nature of SAICM is generally viewed as one of its major strengths, but it can also be an obstacle, as it creates the possibility for strong interest groups to block progress. This was the case, for example, during ICCM<sub>4</sub>, where a strong interest group blocked progress towards the adoption of stringent actions on endocrine disrupting chemicals.

SAICM stakeholders that participate in the meetings and policy work are a large and diverse group of actors. Notably, intergovernmental organizations (UN-based and others), non-governmental organizations, and the chemical industry are fundamental participants. They act individually or as part of a cooperative group of

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<sup>20</sup> Rule 14.

actors. In addition, the Major Groups and other Stakeholders (MGOS)<sup>21</sup> group seeks to represent all sectors of society in international environmental and developmental policy-making. It appears that MGOS do not have an established position within SAICM; the representation of stakeholders is sectoral and the involvement of all major groups is not automatic – for example, organizations focused on promoting the rights of women, children, and indigenous peoples do not routinely participate in SAICM meetings.

#### 4.1.1 Participation of other sectors in SAICM

It has been argued that the World Health Organization (WHO), the International Labour Organization, and the Office of the UN High Commissioner for Human Rights (OHCHR) should increase their engagement with current and future processes and negotiations on international chemicals management (Tuncak and Ditz 2013). In 2015, the ICCM<sub>4</sub>, in its Resolution 1/IV (para 5), called for the deepening and broadening of UN system-wide engagement through the work of IOMC and EMG.

The *World Health Organization* has, in recent years, initiated a range of activities that have linkages with SAICM.<sup>22</sup> For instance, it has arranged a consultation with health-sector stakeholders on priorities related to the 2020 goal (SAICM 2015a); regional-level activities have been arranged in different regions (e.g. meetings on regional priorities towards the 2020 goal); and thematic networks and technical collaboration have been established in SAICM-related work (relating to risk assessments and food safety, for instance) (SAICM 2015b). Furthermore, the WHO has been working with the SAICM Secretariat to provide a service to facilitate access to the Trust Fund, to establish an informal network of health-sector focal points for sharing experience, and to collect and share information on the capacity-building needs of the health sector (WHO 2010). The ICCM and the United Nations Environment Assembly<sup>23</sup> have called upon the WHO to continue supporting the work of the SAICM Secretariat in its areas of expertise, as a reflection of its lead role within the Strategy.<sup>24</sup> In May 2016, the WHO issued Resolution 69.4, in which it requested

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<sup>21</sup> The Major Groups are: women, children and youth, indigenous peoples, non-governmental organizations, local authorities, workers and trade unions, business and industry, the scientific and technological community, and farmers.

<sup>22</sup> It should be noted that the WHO is not the only international organization of the health sector that has been participating in the work of SAICM; for instance, the World Federation of Public Health Associations has also been engaged.

<sup>23</sup> UNEP/UNEA.1/5.

<sup>24</sup> Already the SAICM Strategy for strengthening the engagement of the health sector in the implementation of SAICM (2012) called for greater involvement and participation of the health sector in SAICM activities (SAICM 2014a). In contrast

the Secretariat to present to the 70th World Health Assembly a roadmap outlining concrete actions to enhance health-sector engagement towards meeting the 2020 goal and contributing to relevant targets of the 2030 Agenda for Sustainable Development.

Trade unions were important actors in the development of SAICM. The *International Labour Organization* has shown active involvement in the operations of the SAICM Quick Start Programme Trust Fund Implementation Committee. The ILO has also supported relevant activities in the SAICM's Global Plan of Action (IOMC 2015), for instance regarding the chemical safety of workers. In addition to the ILO, the International Trade Union Confederation (ITUC), for instance, has participated in the work of SAICM.

The *Food and Agriculture Organization (FAO)* provides guidance in policy implementation in the agricultural sector. The scope of SAICM includes agricultural chemicals. Of SAICM-related issues, the FAO has mainly been concerned with pesticides used in agriculture,<sup>25</sup> and in that area the FAO has established cooperation with SAICM and other international chemicals agreements. In particular, on the issue of highly hazardous pesticides, the FAO has provided information and outlined possible actions for SAICM to take in this area (FAO 2014). There are ample opportunities for cooperation and synergies between the FAO and SAICM.

In recent years, UN human rights institutions have increased their engagement in the area of hazardous chemicals and waste. The *UN Special Rapporteur* on the implications for human rights of the environmentally sound management and disposal of hazardous substances and waste was first appointed in 1995, and the work still continues today. The task of the Rapporteur is to monitor, together with the UN Human Rights Council, the adverse effects that the generation, management, handling, distribution, and final disposal of hazardous substances and waste may have on the full enjoyment of human rights. The SAICM 2020 goal is essential in this respect (OHCHR 2014).<sup>26</sup> More generally, SAICM explicitly and implicitly embraces human rights principles and norms.<sup>27</sup> The Special Rapporteur has also invited SAICM to adopt a more strategic approach to achieve its potential to reduce the grave impacts of toxic chemicals on human rights (OHCHR 2015).

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to the calls, the WHO has withdrawn its support to second a programme officer to SAICM, which critically endangers its operation (SAICM 2015c).

<sup>25</sup> The main instrument being the International Code of Conduct on the Distribution and Use of Pesticides.

<sup>26</sup> The Special Rapporteur is currently developing, in consultation with stakeholders, a guide to best practices on the human rights obligations related to environmentally sound management and disposal of hazardous substances and waste.

<sup>27</sup> Art. 10 of the Dubai Declaration.

The United Nations is actively working in the field of chemicals and waste management. The *UNEP* Chemicals and Waste Branch is the leading catalysing body with a life-cycle approach. In addition, *UNEP's* Chemicals and Waste Sub-programme is assisting and working closely with governments, industries, and civil society organizations in achieving the 2020 goal. Both bodies are engaged in conducting scientific assessments and in providing legal and policy guidance and assistance in national implementation of chemicals and waste regulation, such as through workshops, publications, and training. The *UN Economic and Social Council (UN ECOSOC)* also deals with some chemicals and waste-related issues, for example through the globally harmonized system of classification and labelling and the Kiev Protocol on Pollutant Release and Transfer Registers, which also covers the chemical industry.

The *Organisation for Economic Co-operation and Development (OECD)* actively works in several areas of chemicals management, assisting governments and industry in managing risks posed by harmful chemicals, promoting harmonisation efforts on risk management activities where appropriate, and enhancing global public access to information on hazardous chemicals. An illustrative list of OECD activities is provided in Table 3 below.

**Table 3: Select OECD Activities in Chemicals Management in relation to SAICM**

Area	Activities	Objective
Substitution of harmful Chemicals	Establishment of Ad Hoc Group on Substitution	Provide guidance on methods and tools for decision-making on the substitution of chemicals of concern and assessments of alternatives (e.g. the OECD Substitution and Alternatives Toolbox: SAAToolbox.)
Sustainable Chemistry	Sustainable Chemistry Platform (website)	Facilitate information exchange and stakeholder networking, identify specific areas for international cooperation (e.g. nanotechnology products and chemicals leasing).
Perfluorinated Chemicals	Establishment of OECD/UNEP PFC Group OECD web Portal on PFCs (these efforts are a direct contribution to the implementation of ICCM-2 Resolution II/5 and ICCM-3 Resolution III/3)	Information exchange on regulatory and industry stewardship Provide support to global phase-out through use of safer alternatives. (e.g. reports produced on PFASs and PFCAs in support of SAICM process).
Risk reduction	OECD Risk Management Programme	Support members in development of national policies, actions and international risk management activities (e.g. development of an OECD Chemicals Risk Management Series).
Classification and Labelling	OECD Cooperative Chemicals Assessment Programme	Harmonize international classification of hazardous chemicals (e.g. develop or revise proposals for classification criteria, development of eChemPortal).

The largest international police organization, *Interpol*, could take a bigger role in the implementation of international chemicals regulation. This holds especially with regard to controlling the transfer of unlawful waste and the smuggling of chemicals (to be used in terrorist attacks, as that is where Interpol's attention currently lies). More generally, environmental crime is an increasing area of activity for police forces in all parts of the world (UNEP and Interpol 2016). Illegal trafficking and use of chemicals seems to be a significant part of the problem.

Interpol is mentioned in the SAICM Global Plan of Action in the context of the work area of "Prevention of illegal traffic in toxic and dangerous goods". The relevant GPA activities focus on developing national strategies and capacities to tackle the illegal traffic<sup>28</sup> and on creating a global information network across national borders to track and prevent illegal traffic in toxic and dangerous goods.<sup>29</sup>

<sup>28</sup> GPA activity 204.

<sup>29</sup> GPA activity 271.

Under Interpol's current chemicals and explosives terrorism activities, capacity-building and training are provided to "promote measures to identify, interdict and investigate the illicit diversion of chemicals and prevent the smuggling of chemicals across international borders."<sup>30</sup> The organization does not directly refer to a SAICM-type of instrument as its guideline to work, but there are surely linkages and room for more active cooperation and exchange of information and experiences.

#### 4.1.2 *Inter-agency coordination mechanisms*

The *Inter-Organization Programme for the Sound Management of Chemicals (IOMC)* promotes coordination of policies and activities, pursued jointly or separately, to achieve the sound management of chemicals in relation to human health and the environment.<sup>31</sup> The IOMC organizations<sup>32</sup> have been actively participating in SAICM activities. The organizations have participated in all SAICM regional meetings, have co-organized back-to-back events, and participated in the Core Group/Coordinating Committees of different regions. In addition, the IOMC has provided assistance to implement the Quick Start Programme (QSP) under SAICM. The IOMC has also developed an Internet-based Toolbox for Decision-Making in Chemicals Management. This focuses on processes taking place at the national level, identifying the available IOMC resources that will help the country address the identified national problems or issues.

The individual IOMC organizations have all endorsed or formally acknowledged support for SAICM, and their activities support the SAICM objectives, as well as implementation of the Global Plan of Action, which identifies IOMC organizations as actors in 80 per cent of its activities. Through the IOMC Strategy for Strengthening of National Chemicals Management Capacities, the member organizations promote SAICM in the activities that they carry out at the national level. However, ICCM – the governing body of SAICM – cannot mandate the secretariats of UN bodies that are accountable only to their own governing bodies. This is a weakness of SAICM, causing a situation in which the UN bodies have difficulty responding to requests by ICCM.

The *UN Environment Management Group (EMG)* is a UN system-wide coordination body on environmental issues. The Group made a commitment in 2015 to continue "to promote and raise the profile of sound chemicals management within the UN system"; to promote "the integration of chemicals management

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<sup>30</sup> <https://www.interpol.int/Crime-areas/CBRNE/Chemical-and-explosives-terrorism>

<sup>31</sup> <http://www.who.int/iomc/participants/en/>

<sup>32</sup> FAO, ILO, UNDP, UNEP, UNIDO, UNITAR, WHO, World Bank and OECD.

issues across sectors and in the broader context of economic and social development planning”; and to ensure “additional synergies”, between the respective UN organizations and with related organizations, in supporting countries in activities to achieve sound chemicals management by 2020 (EMG 2015). As concrete means to fulfil the commitment, the EMG can examine and raise awareness of the linkages between multilateral environmental agreements and other environmental policy instruments (including SAICM) and the SDGs and the UN system-wide strategy on the environment (EMG 2016).

The EMG set up an ad-hoc Issue Management Group (IMG) – composed of 16 UN and related agencies – in January 2014 to provide coherent system-wide support for the work on achieving the sound management of chemicals and waste. The IMG on the sound management of chemicals and waste has a mandate that builds upon and complements the ongoing work of the IOMC. The IMG works to raise the priority of chemicals and waste issues within the United Nations; to promote the integration of chemicals into economic and social development planning; and to enhance synergies between UN organizations in supporting countries in reaching their 2020 target (SAICM 2014b). The main functions through which the IMG seeks to achieve its goals are active participation in the implementation of the Sustainable Development Goals on chemicals and waste; and enhancing synergy in achieving the set 2020 goal on chemicals. The promotion of synergy happens through collecting and disseminating information, and through recommendations on how to achieve additional synergies between different agencies, funds, and programmes of the UN system (SAICM 2014b).

Both the IOMC and EMG aim to enhance ownership of chemicals and waste in the UN system. The IOMC organizations, representing a broad range of UN organizations, have, to some extent, put the sound management of chemicals and waste into the mainstream in their work programmes. The programme has supported SAICM activities and actively participated in its work. The major contribution of the EMG towards mainstreaming and enhancing ownership of the sound management of chemicals and waste is to come in the future, especially in the context of SDG implementation with linkages to chemicals and waste management.

#### **4.1.3**     *The role of the private sector*

The chemical industry has been an active participant in the development and functioning of SAICM. The industry participates in SAICM meetings, workshops, and so on. The industry has been represented, first and foremost, by the International Council of Chemical Associations (ICCA). The organization made an explicit

commitment at ICCM<sub>4</sub> in 2015 to advance SAICM implementation and to promote the sustainable and effective management of chemicals globally. The concrete means by which ICCA and the chemical industry implement SAICM include the Responsible Care<sup>®</sup> and Global Product Strategy programmes, capacity-building workshops, and information-sharing and technical support for its members. These are concrete measures; however, their exact influence on reaching the 2020 goal has not been studied.

Through a partnership that ICCA has established with UNEP (which serves as the Secretariat of SAICM), they will continue to work together to assist countries to enhance and improve their chemical management systems. In addition, ICCA has recently made a commitment to provide funding to the SAICM Secretariat; this is the first time that ICCA has allocated a significant sum in support of the SAICM functions.

Downstream users of chemicals (e.g. the textile and car industries) are in a particularly crucial position in the implementation of chemicals management policies. They are often forced to react to consumer demands for better chemicals and waste management, or they may themselves create demand for cleaner products. There is a substantial potential in enhancing their efforts. However, individual downstream users do not directly participate in SAICM.

Private sector involvement should be scaled up, considering the growing volume and impact of the chemicals industry in practically all economic sectors. In Europe, the chemicals industry is one of the biggest industrial sectors. It has been estimated that only 0.1% of the global chemicals industry turnover could yield USD 3–4.1 billion each year to support the sound management of chemicals (Chemical Watch 2012). The climate change regime has been able successfully to link to the private sector and to mobilize significant financial resources to fight climate change.

#### **4.1.4**     *The role of non-governmental organizations*

Chemicals management and chemicals safety belong to the portfolio of numerous national and international non-governmental organizations (NGOs). Chemicals are highly relevant for human rights focused and environmental NGOs. In addition, there are many NGOs that have specialized their global advocacy efforts on the issue of chemicals and waste. Amongst the most well-known that have been documenting the global waste trade are Greenpeace and the Basel Action Network (BAN). In fact, BAN has been an instrumental actor in the ongoing development of the Basel Convention, particularly on electronic waste management. Another well-known NGO in the



chemicals sector is IPEN, which is actually a coalition of NGOs that are working in the field of chemicals.<sup>33</sup> IPEN actively participated in the creation of the Stockholm Convention and continues to influence the implementation of the BRS and Minamata Conventions. IPEN activities provide an example of NGO participation in international chemicals and waste policy: the organization participates in treaty discussions, produces and disseminates new scientific information to international policy-makers, works to raise the profile of chemicals issues generally and in development strategies, and secures funding for chemical safety projects.

Each non-governmental organization with expertise and responsibilities in the field of international chemicals management is invited to nominate a SAICM focal point. NGOs have, from the start, actively participated in SAICM activities, meetings, and decision-making. They also act as watchdogs, participating in and monitoring policy implementation. NGOs were also eligible to suggest projects under the SAICM funding mechanism.

#### **4.1.5 Coordination and sectoral engagement at the national level**

All governments of the states that are members of SAICM should appoint Strategic Approach national focal points.<sup>34</sup> The focal points should act as hubs of communication and should be in a working relationship with all relevant departments and stakeholders that have an interest in the implementation of SAICM.

It has been assessed that the lack of inter-organizational integration that is apparent at the international level is also a problem at the national level. This means a situation where multiple and diverse agencies often share responsibility for chemicals management, with limited inter-agency coordination (UNEP 2012a). To improve the typical setting, there should be a central, inter-agency coordinating body for chemicals management at the national level (UNEP 2012a).<sup>35</sup> Many countries have not yet realised this need. A lack of national SAICM coordinators and gaps in the collection, exchange, and provision of information on chemicals in the relations between different agencies and organizations have been reported (Eco-Accord Centre

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<sup>33</sup> IPEN comprises of 700 participating organizations around the world.

<sup>34</sup> "To sustain an integrated approach to managing chemicals, each Government should establish arrangements for implementing the Strategic Approach on an inter-ministerial or inter-institutional basis so that all concerned national departmental and stakeholder interests are represented and all relevant substantive areas are addressed. To facilitate communication, nationally and internationally, each Government should designate a Strategic Approach national focal point to act as an effective conduit for communication on Strategic Approach matters." (Para. 23 of the SAICM Overarching Policy Strategy).

<sup>35</sup> It is interesting to note that many countries have established much better coordinated policies around the implementation of the Convention on Biological Diversity (CBD).

2012). This could be due, in part, to the voluntary nature of SAICM, which often translates into deprioritization of its implementation at the national level in comparison to legally binding frameworks.

One relevant aspect to national coordination efforts is better integration of sound chemicals management within national sustainable development agendas and other development strategies. The conceptualisation and implementation of these strategies should automatically involve various sectors of society. This would create an opportunity to integrate chemicals management into coordinated policy development.

## 4.2 Awareness raising and information management

### 4.2.1 *The clearing-house mechanism*

One of the functions of the SAICM Secretariat is to provide information clearing-house services. This entails facilitation of the provision of advice to countries on the implementation of the Strategic Approach, referral of requests for information to relevant sources, and facilitation of access to information and expertise in support of specific national actions.<sup>36</sup> In addition, the Secretariat is to promote the exchange of relevant scientific and technical information.<sup>37</sup> It has been further prescribed that the information clearing-house should support countries in sharing information related to best practices.<sup>38</sup>

The clearing-house serves multiple functions: it is a place to share and exchange information with different stakeholders, to minimize duplication, and to assist in the coordination of data collection and research activities (SAICM 2012a). The use of a developed and sustained clearing-house mechanism encourages all stakeholders to increase contributions and exchanges of information.<sup>39</sup>

In practice, the clearing-house has not reached its full potential. It has been argued that there is no global collection point or portal to facilitate access to basic health and safety information on all chemicals that could build on national or regional efforts from around the world (Tuncak and Ditz 2013). Generally, members of SAICM lack a shared understanding of what the clearing-house means and how it is to

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<sup>36</sup> SAICM Overarching Policy Strategy, para. 28(f).

<sup>37</sup> SAICM Overarching Policy Strategy, para. 28(h).

<sup>38</sup> OOG, para. 65.

<sup>39</sup> OOG, para. 62.

function. Consequently, it has remained a somewhat obscure mechanism. In addition, the clearing-house mechanism has suffered from budgetary problems that may, in fact, partly derive from the obscurity of the mechanism.

It has been assessed that in the absence of additional funding for the SAICM clearing-house mechanism, consideration should be given to complementary mechanisms, such as the joint clearing house of the Basel, Rotterdam, and Stockholm conventions, the Global Sustainable Consumption and Production Clearing-house hosted by the Sustainable Consumption and Production Branch of the Division of Technology, Industry and Economics of UNEP, or other IOMC resources.<sup>40</sup>

If it is decided that the original SAICM clearing-house will stay in place, its development could be modelled after the CBD, which has a better-functioning mechanism. The clearing-house mechanism of the CBD is a centralized information platform that aims to contribute significantly to the implementation of the CBD and the Strategic Plan for Biodiversity 2011–2020 by promoting and facilitating scientific and technical cooperation, knowledge sharing, and information exchange. The aim has been to establish a fully operational network of parties and partners. The latter significantly expands the CHM network and services. The CBD website is the centre of the CHM, complemented by the network of national CHMs and various partner institutions. The work programme of the CHM includes a list of priority activities, and the goals and objectives of the mechanism have been clearly defined. National focal points and information mechanisms are closely coordinated with the CBD CHM, and capacity-building is provided for the development of national clearing-house mechanisms. However, it should be noted that, despite the good elements and potential great importance, the CBD CHM has generally acknowledged shortcomings, such as its relationship with IPBES, and the quality of information provided by national authorities.

#### **4.2.2 *Increasing awareness, and managing and using information more effectively***

It has been argued that SAICM could be a vehicle for facilitating the exchange of chemicals-related information from a variety of sources (Ditz and Tuncak 2014). SAICM has recognised and cooperated with the UNEP-led Chemicals in Products (CiP) Programme, with CiP being one of the officially recognised emerging issues under SAICM. The programme focuses on increasing the availability of and access to reliable information on chemicals in products to all stakeholders, to enable them to make

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<sup>40</sup> OOG, para. 65.

informed decisions and reduce risks. CiP is open to all relevant stakeholders to join on a voluntary basis.

To increase general awareness of chemicals and waste and their effects, one strategy would be to form a stronger link to socio-economic questions, including human rights and the health of vulnerable populations such as children. Such an approach would make the issue of chemicals and waste management more visible as a global public health issue, and would contribute towards the goal of mainstreaming chemicals management into sustainable development planning.

A key driver for mainstreaming is the collection and analysis of data and information on the costs of inaction and the benefits of action on improved chemicals management for the three pillars of the environment (ecosystem services), public health, and national development/economic sustainability. In 2012, UNEP published its first analysis of the cost of inaction on the sound management of chemicals, which revealed the high economic consequences of unsound management of chemicals.

Another strategy to increase stakeholder awareness of chemicals and waste involves enhancing the responsibilities of chemical manufacturers. This could entail adopting regulatory measures requiring chemical manufacturers to provide adequate health and safety information for any chemical placed on the market, and to ensure access to this information worldwide (Tuncak and Ditz 2013). In this regard, it will be necessary to address concerns related to the protection of legitimate confidential business information, while striving to ensure transparency and public access to health and safety information (Tuncak and Ditz 2013).

## 4.3 Science-policy interface

### 4.3.1 *The effects of science in SAICM*

The Overarching Policy Strategy refers to science in three main areas: risk reduction; knowledge and information; and capacity-building and technical cooperation. Regarding risk reduction, it is stated that risk assessment and management strategies should be supported by improved scientific understanding of the role and behaviour of substances.<sup>41</sup> SAICM has the stated objectives, inter alia, to make objective scientific information available, to ensure that science-based standards are available to all actors, and to accelerate the pace of scientific research on identifying and assessing

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<sup>41</sup> OPS, para. 7(a).

the effects of chemicals on human beings and the environment.<sup>42</sup> As regards capacity-building, the OPS states, inter alia, that SAICM is to promote information exchange and scientific and technical cooperation.<sup>43</sup>

The role of science in SAICM agenda-setting continues to be perhaps most significant as regards emerging policy issues. The nominations and possible subsequently adopted resolutions that officially recognise emerging policy issues and other issues of concern must be based on sound science, showing the effects of the issue on human health and the environment. The process identifies existing knowledge and perceived gaps in understanding about the issues.<sup>44</sup> However, the identification of emerging issues is ad hoc in nature and is subject to the initiative of at least one member state.

#### **4.3.2** *Is there a need for a scientific expert panel?*

The first thing to consider is the means by which existing scientific portals and assessments could be better linked to decision-making within SAICM. A useful example is the OECD eChemPortal. This is a global portal for information on chemical substances, and explicitly a contribution to SAICM. eChemPortal has been prepared in collaboration with the WHO and other organizations. It has been said to maximize access to information on chemicals for all stakeholders.<sup>45</sup> The portal could be more directly linked to SAICM to provide the latest information on relevant chemical substances.

Other scientific tools that should be better used are the Global Chemicals Outlook and the Global Waste Management Outlook. The latter remains a publication that is not widely used. One could ask whether it would be sensible to merge the two publications. The new document would probably be sufficiently robust to actually influence international and national decision-making. Another option would be to make regular mutual linkages between findings and recommendations for policy-makers with the two Global Outlooks, perhaps together with relevant health sector reports and sustainable development reports under Agenda 2030.

There is no external intergovernmental science-policy panel to support informed policy formulation under the international chemicals and waste regimes and

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<sup>42</sup> OPS, para. 8.

<sup>43</sup> OPS, para. 24(k).

<sup>44</sup> SAICM: Nomination of emerging policy issues for consideration by the International Conference on Chemicals Management at its fourth session.

<sup>45</sup> Vision Statement of the eChemPortal.

instruments. For this reason, from time to time, states have suggested that an independent United Nations Panel on Chemicals should be created. It would be a “new UN panel with independent researchers to tackle the risks from chemicals in the same way that the Intergovernmental Panel on Climate Change (IPCC) is doing for climate change” (ECHA 2009) or the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) is doing for biodiversity loss. The IPCC has addressed chemicals in its assessment reports; the connections between climate effects and chemicals could be made more explicit in the work of both climate and chemicals-related institutions. In the same vein, the IPBES could be used to address chemicals issues (and it has already done so; see, e.g., the report on pollinators) (IPBES 2016): for instance, the future global assessment report on marine biodiversity provides opportunities to address questions related to chemicals.

The creation of an internal scientific body could be another option. Several models exist that could guide the work within SAICM. For instance, the Montreal Protocol’s Scientific Assessment Panel produces a report every four years, documenting the state of the ozone layer, based on contributions from an ad hoc steering group of international researchers. The Protocol’s Technology and Economic Assessment Panel might be an even better model, because it provides a detailed analysis of issues connected with regulated substances and groups of substances, and may (if so mandated) suggest concrete and focused action. Another relevant example is the Climate and Clean Air Coalition.

The Stockholm and Rotterdam Conventions have specific scientific committees: the Persistent Organic Pollutants Review Committee (POPRC) under the Stockholm Convention and the Chemical Review Committee (CRC) under the Rotterdam Convention. These could be further developed, especially to consider the socio-economic links of chemicals and waste issues, and possibly integrated with SAICM or operated in liaison with it.

The Scientific Expert Group on Chemicals and the Environment (SECE), established under UNEP in 2011, is a rather new expert panel in the chemicals sector.<sup>46</sup> SECE is to provide scientific advice and guidance on environmental issues linked to the sound management of chemicals. SECE provides UNEP and its stakeholders with a resource of expertise that can be drawn upon to address particular environmental issues concerning chemicals (e.g. pesticide management).<sup>47</sup>

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<sup>46</sup> UNEP developed the Terms of reference for it in 2011.

<sup>47</sup> Terms of reference, section 1.

Furthermore, it will provide the required scientific basis in support of UNEP's efforts to implement SAICM.<sup>48</sup>

The International Panel on Chemical Pollution (IPCP) is an international network of independent researchers, established in 2008. It collects scientific knowledge about issues of chemical pollution and provides summaries and interpretations of the available knowledge for decision-makers and the public.<sup>49</sup> The organization of the IPCP consists of a general assembly that convenes annually and a board that is responsible for the general direction of the work of the panel and for approving results from the research conducted under the panel. Research reports are prepared by different working groups. The IPCP has clearly been modelled after the IPCC, and the main function of both bodies is to develop expert knowledge, based on the latest science, for use by policy-makers in their relevant fields. However, the IPCP is not as equally well-established and mature as the IPCC in that it does not have an intergovernmental segment but is composed of scientists only.

The strength of an intergovernmental panel is that both scientists and policy-makers adopt the main findings of the scientific reports, creating ownership and stimulating action in both the policy and scientific arenas. The IPCC is the most important institution within the science-policy interface of the climate regime. In addition, there is a long list of organizations and initiatives supporting systematic observation, climate services, and research. Scientific findings and estimates have a remarkable influence on decision-making under the UNFCCC. A similar body could be created under the international chemicals and waste management regime.

Regarding the question of how to link SAICM to these kinds of expert panels, the existing scientific bodies provide different options, some of which are easy to implement, while others would be more costly. In general, duplication and extra costs should be avoided, and member states should seek ways to better utilize the existing scientific panels that focus on chemicals and waste. On another note, it is questionable whether there is even a need for a new scientific body for SAICM. As long as there are no legally binding obligations for states under SAICM, a scientific expert panel may not be needed. According to this view, the recommendations that SAICM provides could well be created without such a body.

In assessing whether a new scientific expert panel should be established, monetary and other costs should be taken into consideration and carefully balanced against the expected benefits. Since duplication of existing efforts should be avoided, a possible new panel should have clear additional value. Such added-value would be

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<sup>48</sup> Terms of reference, section 2.

<sup>49</sup> <https://www.ipcp.ch/>

brought by involving governments and thus by giving them ownership of the produced reports and so on. A new scientific expert panel could create dialogue with scientists and policy-makers, to achieve the sound management of chemicals and waste at a global level. The results of the work of such a panel should be effectively fed into internationally relevant policy-making.

If a future SAICM is envisioned as an international chemicals-related information-producing institution, sharing the task with UNEP, possible models could be the World Conservation Union (IUCN) and the Climate and Clean Air Coalition (CCAC).

#### **The CCAC and its usefulness as a potential model for SAICM**

The Climate and Clean Air Coalition is a coalition that is composed of governments, civil society and private sector. It is a platform for creating, implementing and sharing solutions on air quality improvement and climate protection, with a specific focus on near-term actions targeting short-lived climate pollutants. The CCAC has attracted a high volume of funding and directly funds projects. Furthermore, the Coalition has been able to attract high-level political engagement through its High-Level Assembly. The Steering Committee provides support and guidance for the Coalition and the Working Group oversees its cooperative actions. In addition, there are Task Forces that are specialized in certain issues, a Scientific Advisory Panel that keeps the Coalition informed of the latest scientific findings, and a Secretariat that has administrative tasks.

In principle, the model of the CCAC could be applied to chemicals. The establishment of a similar model was perhaps even the idea behind creating SAICM in the first place. In any case, there are similarities between SAICM and the CCAC including their voluntary approaches, focus on partnerships and assessments of progress. Then again, CCAC can “afford” to concentrate on near-term actions since the UNFCCC is dedicated to be a more long-term process. SAICM could learn from CCAC a strong basis on science, and the general aim to increase understanding of the problems. On the structural side, the general assembly is again similar to the current ICCM. The Task Forces are a useful institution with special expertise on selected issues. The scientific side of the Post-2020 Framework could be “outsourced” to a scientific advisory panel if not integrated to a clearing house type of a mechanism.

The World Conservation Union involves both governmental and civil society organizations, scientific and academic institutions, and business associations as members participating in the development of knowledge and policy tools. The IUCN is governed by the general assembly of its members, the World Conservation Congress, and the council, which is responsible for the more regular governance of the organization. In addition, a president leads the whole organization and a secretariat manages the day-to-day operation. Importantly, the IUCN works through specialist commissions that provide the Union with information and know-how. Generally, the IUCN utilizes a broad range of experts and bases its work on the latest science,



providing studies and recommendations to be used by national governments and international policy-making processes and institutions. All the members of the IUCN together agree on, for example, the work programme of the organization.

SAICM could borrow from the IUCN the close relationship to scientific and policy expertise and its utilization in improving regulation. This would mean conducting studies and developing new policy recommendations or instruments based on the latest scientific findings. In addition, the IUCN governance structure could be used as a partial model for the post-2020 chemicals and waste management regime: the ICCM acts as the general assembly of members, and a governing council could be established to work under the direction and monitoring of the ICCM. Specialist commissions could be established if the post-2020 regime assumes scientific or policy study roles.

The Montreal Protocol could offer a model from which the post-2020 chemicals regime could draw lessons. The science-policy interface is well-developed under the ozone regime. Regular scientific assessments guide policy-makers: the Scientific Assessment Panel (SAP), the Environmental Effects Assessment Panel (EEAP), and the Technology and Economic Assessment Panel (TEAP) each prepare, about every 3–4 years, major assessment reports that update the state of understanding in their purviews. The participants of the panels represent experts from both developed and developing countries. The developing country experts bring a special perspective to the scientific process, and their involvement in the process has also contributed to capacity-building in those regions and countries (WMO 2014).

In essence, a central weakness of SAICM is that there exists no mechanism exists to comprehensively assess progress or to identify emerging problems and bring them to the attention of governments. This lack has hampered the ability of SAICM to monitor progress and direct resources and attention to the most pressing areas of concern. Strengthening the science-policy interface includes various options, such as:

- Creating a stronger link with relevant existing assessment mechanisms, such as UNEP's Global Chemicals Outlook and the Global Waste Management Outlook.
- Establishing a small scientific panel within the Post-2020 Framework of SAICM.
- Creating a more ambitious independent intergovernmental science-policy interface to support the coherent development of global chemicals and waste governance, including the Post-2020 Framework.

#### 4.4 Indicators and reporting

SAICM does not have a strong mechanism for assessing progress on the 2020 Goal. The adoption of the Overall Orientation and Guidance for achieving the 2020 goal of sound management of chemicals changed this a little since it identified approaches and elements towards facilitating the achievement of the 2020 Goal. Nevertheless, indicators and reporting remain difficult issues.

ICCM2 in 2009 adopted 20 indicators to review progress towards the 2020 goal.

##### **List of indicators used for reporting progress in implementation of the Strategic Approach and the related basic elements of the overall orientation and guidance**

- Number of countries (and organizations) implementing agreed chemicals management tools.
- Number of countries (and organizations) with mechanisms to address key categories of chemicals.
- Number of countries (and organizations) with hazardous waste management arrangements.
- Number of countries (and organizations) engaged in activities that result in monitoring data on selected environmental and human health priority substances.
- Number of countries (and organizations) having mechanisms in place for setting priorities for risk reduction.
- Number of countries (and organizations) providing information according to internationally harmonized standards.
- Number of countries (and organizations) that have specific strategies in place for communicating information on the risks associated with chemicals to vulnerable groups.
- Number of countries (and organizations) with research programmes.
- Number of countries (and organizations) with websites that provide information to stakeholders.
- Number of countries (and organizations) that have committed themselves to implementation of the Strategic Approach.
- Number of countries (and organizations) with multi-stakeholder coordinating mechanism.
- Number of countries (and organizations) with mechanisms to implement key international chemicals priorities.
- Number of countries (and organizations) providing resources (financial and in kind) to assist capacity-building and technical cooperation with other countries.
- Number of countries (and organizations) that have identified and prioritized their capacity-building needs for the sound management of chemicals.
- Number of countries (and organizations) engaged in regional cooperation on issues relating to the sound management of chemicals.
- Number of countries where development assistance programmes include the sound management of chemicals.
- Number of countries (and organizations) with projects supported by the Strategic Approach's Quick Start Programme Trust Fund.

- Number of countries (and organizations) with sound management of chemicals projects supported by other sources of funding (not Quick Start Programme funding).
- Number of countries having mechanisms to prevent illegal traffic in toxic, hazardous and severely restricted chemicals individually.
- Number of countries having mechanisms to prevent illegal traffic in hazardous waste.

It is generally acknowledged that the current indicators are not satisfactory; they do not provide sufficient information on the level of implementation of SAICM. Many of the indicators measure more the existence of certain mechanisms at the national level, instead of the level of their actual implementation and enforcement (Senuagwa and Persson 2014). Many of the listed indicators do not deliver information on actual practices in chemicals management that can be used by SAICM stakeholders to assess progress over time. For example, in the area of illegal traffic (objective 5 of the OPS), indicators of progress related to preventing illegal traffic in toxic and dangerous goods include the following:

- An assessment of the extent of illegal traffic is undertaken (Activity 265).
- Mechanisms to control transboundary movement of toxic and hazardous chemicals are in place (Activity 267).
- Intergovernmental organizations have adopted decisions on the prevention of illegal international traffic in toxic and hazardous products (Activity 269).

While these elements are certainly all important aspects of illegal traffic prevention and give insight into the institutional status quo, it is questionable to what extent they are actually indicators of *progress*. Throughout the GPA, many indicators of progress and implementation aspects have been formulated in such a way as to offer no information regarding how established mechanisms or institutional strategies are actually being used.

Consequently, it has been noted that the current indicators are ineffective in assessing the state of chemicals management (UNEP *et al.* 2016). Activity-based indicators can be subjective: their measurement is based on self-assessment and is open to variability in responses. Consequently, the current set of indicators does not identify core achievements or support in setting priorities within SAICM (Terekhova *et al.* 2016).

Currently, reporting under SAICM remains unsatisfactory. The ICCM is responsible for undertaking periodic reviews of SAICM. Two progress reports and a

baseline have been developed to-date. The reporting rates of members are limited (Terekhova *et al.* 2016).

Despite the indicator framework, there is no specific review process in place to report on the efficacy of SAICM, meaning on how it is achieving its objectives. There have been demands to build a mechanism that would reliably evaluate the effectiveness of SAICM (IPEN 2015). An independent assessment of SAICM is currently underway: the SAICM Secretariat has set up an independent evaluation of the Strategic Approach for 2006–2015, in accordance with the terms of reference set out in the annex to SAICM resolution IV/4.

It appears clear that the current indicator framework under SAICM is in need of revision. There are models in other international environmental regimes that could be studied. In developing more meaningful indicators for SAICM, the Aichi Biodiversity Targets<sup>50</sup> of the CBD could be a model to use. They have been well received and adopted within the UN system and elsewhere, also to some extent by the private sector. Adopted in 2010, together with the Strategic Plan for Biodiversity, the targets form a framework of guidance for the entire United Nations system to develop better management policies for biodiversity. Many of the Aichi Targets could be modified to fit into the chemicals and wastes context.

When developing new indicators, policy-makers should consider whether the 11 basic elements of the SAICM Overall Orientation and Guidance document could be converted into more useful indicators. This would avoid having to invent the entire system of indicators anew. In any case, the indicators should be easy to communicate and the overall system should not be too large and complicated. For guidance, members could use the set of 10 indicators developed by the IOMC (SAICM 2015d).

Inclusion of chemicals and waste management in many of the Sustainable Development Goals is likely to require more quantitative results-based evidence and data collection in the future (Terekhova *et al.* 2016). Reporting and information management will thus be raised to a key role in this respect.

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<sup>50</sup> The Aichi biodiversity targets consist of five Strategic Goals and of 20 Targets within them. Countries have adopted national targets to implement the Strategic Goals and Targets.

## 4.5 Capacity-building and funding

### 4.5.1 *The level of funding for chemicals and waste*

Overall, the current level of funding for the sound management of chemicals and waste is widely considered inadequate. Efforts to raise external funding have been considered inadequate and have fallen far short of projected needs (SAICM 2016a). The existing approach to funding is, arguably, hampered by fragmentation, disconnections, and insufficient coordination (UNEP 2012b). There are a number of funding mechanisms available for chemicals and waste management, and new approaches have been envisioned for the future.

Funding available under SAICM's Quick Start Program (QSP) is to help developing countries with implementing the Overarching Policy Strategy. The Programme has a limited mandate in that it provides funding only for enabling activities. However, the level of funding is low and the voluntary nature of the fund brings unpredictability to the scheme. Since its establishment in 2006, through until 2015, the QSP has mobilized approximately USD 49 million.<sup>51</sup> It is anticipated that a number of new QSP agreements will be initiated in 2016 and 2017 from the QSP Trust Fund, with a value of approximately USD 1.7 million (SAICM 2016b).

The QSP is a time-limited funding programme, and it has been closed for new contributions. It has been assessed that the ending of the QSP will inevitably lead to a gap in financial resources that cannot be filled despite funding provided by the Global Environment Facility (SAICM 2014b).

The GEF has had a specific Chemicals and Waste focal area since 2014. The focal area replaced the previous Persistent Organic Pollutants (POPs) and Ozone focal areas and combined them with mercury and SAICM. The programs and policies of the focal area reflect this goal and use integrated approaches and targeted programmes to achieve it (SAICM 2015e). The long-term goal of the GEF-6 chemical and waste strategy is to prevent the exposure of humans and the environment to harmful chemicals and waste of global importance, including POPs, mercury, and ozone-depleting substances. This is to happen through a significant reduction in the production, use, consumption, and emissions/releases of those chemicals and waste (GEF 2014).

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<sup>51</sup> The amount includes approximately USD 39.4 million in cash contributions to the Trust Fund and USD 9.7 million in cash and/or in-kind contributions from project implementers and executing agencies. In addition, USD 4.1 million in non-Trust Fund contributions were reported over the period 2006 to 2015.

During GEF-5 (2010–2014), USD 10 million was allocated to address SAICM priorities (SAICM 2015e). In the GEF-6 replenishment cycle, the Chemicals and Waste focal area funding was increased to a total of USD 554 million, of which USD 13 million is allocated to SAICM (SAICM 2015e).<sup>52</sup> However, even the new GEF funding has been criticized for being too little compared to the need (IPEN 2015).

The funding for chemicals and waste that is channelled through international funding institutions is only a fraction of what is provided under the international climate change regime for mitigation and adaptation activities.<sup>53</sup>

UNEP adopted a Special Programme to support institutional strengthening at the national level for the implementation of the Basel, Rotterdam, and Stockholm Conventions, the Minamata Convention and SAICM in 2014.<sup>54</sup> It is a significant new financing initiative, simultaneously supporting the whole chemicals and waste cluster. The Special Programme was modelled after, in particular, the Montreal Protocol Multilateral Fund and the QSP of SAICM (UNEP 2016).

The Trust Fund for the Special Programme has been open to receive funds since September 2015. To date, the Special Programme has received approximately USD 13.6 million in pledges and contributions. The SAICM Secretariat is participating in an internal task team that draws upon expertise and experience from similar programmes with a view to supporting the implementation of the Special Programme (UNEP 2016).

#### **4.5.2 Making capacity-building more efficient**

One means to make capacity-building in the chemicals and waste sector more efficient is to seek greater industry involvement, including public-private relationships and partnerships. These could be based on official development partnerships with the private sector (DPPs) or could be more ad hoc. The chemical industry is one of the largest and most important industrial sectors and, as such, possesses the financial and technical resources to invest in sustainable chemicals management projects. In the same vein, support should be channelled to civil society initiatives (GEF 2014). Under GEF-6, civil society organizations can apply for, through the GEF implementing agencies, and receive approval for projects focused on the elimination of hazardous

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<sup>52</sup> The overall sixth replenishment of the GEF Trust Fund was USD 4.43 billion.

<sup>53</sup> The total funding under the UNFCCC in 2012 was 28.863 billion USD (UNFCCC 2014). For comparison, the total income to the Montreal Protocol MLF was 197 million USD for 2015-2016 (MF 2016). The GEF has allocated 1,240 million USD for the CBD for the four-year-period of GEF-6 (GEF 2014).

<sup>54</sup> Adopted by UNEA Res. 1/5 “Chemicals and waste” (2016).

chemicals and waste (GEF 2014). Civil society actors can have innovative ideas on how to use scarce financial resources most efficiently. Furthermore, the use of economic instruments such as fees and refund systems at the national and subnational levels often leads to more efficient use of resources when appropriately conceptualized and implemented. Overall, giving various stakeholders an opportunity to enhance their engagement in acquiring funding and in the implementation of approved projects will provide for greater efficiency gains in the long run. Indeed, it has been stated that a multi-stakeholder forum such as SAICM would need a multi-stakeholder funding mechanism (SAICM 2016). The participatory structure of the CCAC provides one model to consider in this regard.

The Multilateral Fund for the implementation of the Montreal Protocol is an example of a well-functioning funding mechanism in international environmental regulation. However, the success of the Fund is partly explained by the specific characteristics of the ozone problem and its management (for instance, there are only a limited number of ozone-depleting substances that need(ed) to be phased out, and they were used to manufacture a limited number of types of products; furthermore, the industry was active from the beginning in developing substitutes) and by the fact that developed countries agreed at the beginning to provide funding. The situation is entirely different with chemicals.

The international climate regime has established a number of financing mechanisms, and it also benefits from resources provided by the GEF. The funding mechanisms have been created to respond to the different needs of the recipients and also to mobilize resources through different channels. Such a multi-channel approach could also benefit the international chemicals regime.

A concrete means by which capacity-building efforts under SAICM could be made more efficient is encouraging the use of the regional centres under the chemicals and waste conventions to execute projects and assist in the development of regional projects (GEF 2014). These centres possess the best knowledge of their areas and could thus assist in the allocation of funding, in the design of projects, and in their efficient and effective implementation. Synergies between the chemicals and waste conventions would thus be realised.

To reach maximum efficiency in the capacity-building efforts, firstly, appropriate criteria should be set for approving funded projects (UNEP 2012c).<sup>55</sup> Secondly, the financing should be performance-based, to support actual actions instead of good

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<sup>55</sup> The criteria could be such as those adopted under the Stockholm Convention. See Complete set of guidance and consolidated additional guidance to the financial mechanism of the Stockholm Convention (POPs 2013).

intentions. Thirdly, the structure of the financing mechanisms should entail incentives to that effect. Fourthly, there should be post-hoc monitoring of expenditure.

#### **4.5.3 *Developing versus developed countries***

Developing countries face multiple challenges in realising sound chemicals management, including budgetary problems, inadequate structures to monitor and implement the policies, and the low priority given to chemical safety (UNEP 2012a). Furthermore, developing countries often lack adequate capacity to identify and analyse chemical management issues of concern within their jurisdictions (RFI 2008). The status quo is alarming, particularly since chemical intensification is increasing very rapidly in the developing world. The trend is that chemical production will continue to shift to developing countries and countries with economies in transition. It has been estimated that by 2020, developing countries will produce 31% of global chemicals and use 33% of global chemicals (SAICM 2015f). To respond to the situation, developing countries need to strengthen existing laws and institutions, and develop new instruments and institutional infrastructures for chemicals management (UNEP 2012a).

With awareness of future trends, capacity-building and information exchange are needed from developed countries to support developing countries in the development of their chemicals and waste management policies and actions. In addition, South-South cooperation can be part of the response to the capacity gap to manage chemicals, given that developing countries are often more similar in socio-economic and technical conditions (SAICM 2015g). Here the role of the BRICS (Brazil, Russia, India, China, and South Africa) countries is essential: they are major producers and consumers of chemicals among the developing or newly industrialized countries.

Generally, the gap in implementing SAICM in developed and developing countries has been widening. The gap should be addressed in a more holistic and comprehensive manner. That is what SAICM aims to do.

#### **4.5.4 *Mobilizing new funding through existing funding mechanisms***

The creation of the new focal area of Chemicals and Waste under the GEF was a significant achievement. However, to function effectively, it requires sustainable, predictable, and adequate financing (SAICM 2012b). It was decided that under GEF-6, all focal area strategies will identify and establish stronger partnerships with the private sector to attract and retain private sector investment. For chemicals and



waste, this has been an under-used feature, and so there should be potential for new funding opportunities (GEF 2014).

The GEF is committed to mobilizing the means required to implement the new Sustainable Development Goals agenda. The Facility acts in a dual role: as a convenor of a multi-stakeholder approach, creating networks that could benefit efforts to achieve the SDGs, and as a catalyst for both financing and the development of new ideas (SAICM 2016a). Sound management of chemicals and waste being an integral part of and a cross-cutting issue in the 2030 Agenda for Sustainable Development, the relevant funding from the GEF can be expected at least not to diminish significantly in the future.

Official development assistance is a funding mechanism that could be used more to support chemicals safety in developing countries. The current situation leaves much to be desired in this respect: chemicals management is usually not included in either development assistance packages or recipient countries' aid requests. Furthermore, chemical management problems are generally treated on a case-by-case basis, rather than by integrating them into a broader environment and development agenda (UNEP 2012a).

To amend the current situation, sound chemicals management could be included in development assistance funding priorities, either as a priority area or as a cross-cutting issue, and in developing and enforcing legislation controlling chemicals production and use (RFI 2008). In fact, the international chemicals conventions require developed countries to support developing country parties in the implementation of the agreements. For sound chemicals management to attract a greater share of development assistance resources, it is important to show how the issue relates to development priorities such as the 2030 Agenda for Sustainable Development and the SDGs (RFI 2008). However, the challenge is that, in many cases, there is limited expertise in this regard on the part of those who make decisions on the allocation of development assistance resources.

The regional aspect should be better utilized in the search for better financing opportunities for chemicals management, especially in developing countries. Regional economic integration organizations and other intergovernmental organizations, including the EU, NAFTA, ASEAN, AU, OECD, SADC, and ECOWAS, could play a larger role in this respect. In addition, regional development banks have the potential to be more deeply involved in the chemicals agenda.

The SAICM Secretariat has engaged in efforts to mobilize new funding for international chemicals and waste management. The Secretariat maintains regular contact with donors to mobilize additional funds. The aim is to raise the needed funding via fundraising letters with SAICM stakeholders and through direct

communication with key stakeholders. These activities aim to broaden the donor base, building on the momentum from ICCM<sub>4</sub> (SAICM 2016b).

In 2007, a proposal was presented according to which the Montreal Protocol Multilateral Fund could possibly be used as one element of the financial arrangements for the implementation of SAICM (SAICM 2007). Interestingly, the Montreal Protocol indicates that the fund can widen its scope to chemicals management activities other than the ozone regime (Art 10(10)). Nevertheless, there are obstacles to the realisation of this prospect, evidenced also by the fact that the fund has not yet been utilized to serve SAICM.

Overall, a key issue in attracting new funding for SAICM (from existing or new sources) is effective mainstreaming of sound management of chemicals and waste. This would enable capacity-building to be realised through a broader range of financing initiatives, not only by strictly chemicals-focused funding mechanisms.

#### **4.5.5** *New innovative financial mechanisms*

An integrated approach to financing the sound management of chemicals and waste has been at the forefront in recent years. The integrated approach (UNEP 2012c), developed through UNEP, has received significant attention and ICCM<sub>4</sub> requested all stakeholders and the SAICM Secretariat to support its implementation.<sup>56</sup> The approach is a strategic and synergistic proposal to improve financing for the sound management of chemicals and waste at all levels (UNEP 2012c). It would cover existing conventions and policy frameworks (especially SAICM) and any future conventions and policy frameworks in the area of chemicals and waste. The approach has even been described as critical to the achievement of the 2020 goal as defined under SAICM (SAICM 2016a).

The integrated approach is composed of three complementary components: mainstreaming of sound management of chemicals and waste into national development plans; industry involvement; and external financing (SAICM 2012b). In addition, the approach would mean mainstreaming the sound management of chemicals and waste into the international development assistance priorities of developed countries (SAICM 2015i). The role of the chemical industry in the integrated approach needs to be further defined for the post-2020 process. The industry involvement would include the internalization of costs of complying with chemicals and waste regulations; economic instruments used to recover and shift costs to the

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<sup>56</sup> Implementation towards the achievement of the 2020 goal, SAICM Res. IV/1 (2015) para. 13.

private from the public sector; transfer of technology; taxes; and taking innovative steps to “green” chemicals and waste throughout their life-cycles (SAICM 2012b).

As a central element of the integrated approach to financing the sound management of chemicals and waste, in 2014 UNEP established the Special Programme to support the implementation of the Basel, Rotterdam, and Stockholm Conventions, the Minamata Convention, and SAICM. The Programme is small but a step to the right direction.

A potential new financing opportunity for the sound management of chemicals in developing countries lies in creating linkages with the implementation of the 2015 Addis Ababa Action Agenda of the Third International Conference on Financing for Development (UNEP 2016). The Action Agenda is also one of the financing frameworks for the implementation of the Sustainable Development Goals.

Another mainstreaming type of effort to raise funding for SAICM would be to increase and broaden efforts to organize joint capacity-building workshops (regional or national) for key sectors, with the involvement of relevant UN and other agencies. In addition, chemicals modules could be included in relevant training and capacity-building workshops for “non-chemicals” topics and conventions (e.g. biodiversity, climate change, marine protection) (SAICM 2016j).

SAICM strongly supports the use of economic instruments. New economic instruments could be effective in tackling problems in chemicals management and to incentivize industry into sound chemicals management. Economic instruments have a triple function: incentive-building, cost-recovery, and revenue-raising. The use of economic instruments allows for the financial burdens of sound chemicals management to be shared by the relevant stakeholders, namely government, administration, producers, and consumers. In the same vein, the benefits of investment in sound chemicals management will be felt by all relevant actors (UNEP 2011). It is this message that needs to be conveyed by the proponents of economic instruments to industry and society.

It is important that new economic instruments are developed in cooperation with the chemical industry. In the original SAICM negotiations, proposals for introducing a taxation system to internalize the costs of sound chemicals management were fiercely opposed by industry (Perrez 2006). Today, the industry is more willing to discuss the use of economic instruments and even to develop such instruments on its own or together with regulators. The benefits of any new instruments need to be demonstrated to industrial and other stakeholders. Moreover, revenue raised through economic instruments needs to be allocated in such a way as to support the expansion of capacity for SMCW (UNEP 2011).

The chemical industry is already subject to a range of economic instruments that aim to internalize costs related to the sound management of chemicals, at least in developed countries. At the central level, ICCA has a Capacity Building Task Force that supports the industry's commitment to SAICM. Its primary objective is to establish capacity-building projects in key developing countries, building on existing chemical safety management tools (ICCA 2009).

## 5. Cross-cutting issues for the Post-2020 Framework

### 5.1 Support for the implementation of the 2030 Agenda for Sustainable Development

SAICM has, since the beginning, been recognised and has built upon the understanding that chemical safety is not merely an environmental concern but a cross-cutting sustainable development issue (Perrez 2006). The links between the management of chemicals and waste, and sustainable social and economic development, have been evident in the work accomplished under SAICM. The multi-sectoral and multi-stakeholder structure of SAICM has been an ideal platform for dealing with the chemicals-related aspects of the 2030 Agenda (SAICM 2016a).

The inclusion of sustainable management of chemicals and waste in the 2030 Agenda for Sustainable Development has been said to have created “renewed momentum” to mainstream and prioritize SMCW at the national level and to implement international chemicals and waste agreements, including SAICM (UNEP *et al.* 2016). While this may be seen as an overly optimistic view, it is certain that the sustainable development goals are concrete and easy to understand, and, as such, form a sound basis for building a future framework for chemicals and waste management.

At the very least, the implementation of the SDGs provides strong motivation and an entry point (UNEP *et al.* 2016) to streamline the realisation of sound chemicals management at the national level. The 2030 Sustainable Development Agenda opens new avenues to raise the profile of chemicals and waste management and to foster its mainstreaming in national development policies and plans.

A comprehensive approach to chemicals and waste management is an essential condition for achieving sustainable development. The comprehensive approach implies integration of SMCW into national (sustainable) development planning, priorities, and strategies. Arguably, a more progressive approach needs to be taken at all levels in order to address chemicals and waste issues in an integrated way as part of a broader development agenda (UNEP *et al.* 2016). Consequently, innovative partnerships and pilot initiatives are needed at both the policy and implementation levels (UNEP 2016). This will require active involvement and engagement of various

sectors of industry, downstream users, and other stakeholders, as well as a collaborative framework between sectors and the public authorities (UNEP *et al.* 2016). Furthermore, it has been posited that institutional support for an integrated approach to SMCW in an SDGs context would require development partners (e.g. the Global Environment Facility (GEF)) and inter-governmental organizations to shift their resource allocation towards more integrated approaches. This would mean, *inter alia*, designing projects in a more holistic manner, taking into account all dimensions of sustainable development (UNEP *et al.* 2016).

In general, contribution to the SDGs via SMCW necessitates the involvement of all relevant actors (sectors, stakeholders, the chemical industry, and downstream industry/users) and their adoption of an integrated approach to sustainable development and chemicals management. Moreover, there should be communication among the different actors, leading to the sharing of successful case examples (UNEP *et al.* 2016), with the objective of awareness-raising and increased understanding of the linkages between SDGs and chemicals and waste. As a concrete measure to realise the latter objective, it has been suggested that a stepwise approach should be taken to map linkages between all 17 SDGs and SMCW in terms of goals, targets, and indicators. The exercise would begin at the national level and continue through the chemicals and waste-related multilateral environmental agreements and SAICM (UNEP *et al.* 2016). The other option would be to identify key linkages, including those in key economic sectors, after which states could make national assessments on the relevant linkages. This type of approach would better equip developing countries to identify linkages between the SDGs and SMCW. The strengthening of institutional capacity and functioning institutions are fundamental for effective implementation of both SMCW and the SDGs (UNEP *et al.* 2016).

The organizations participating in the IOMC have been preparing implementation strategies for the SDGs and would take the lead in monitoring their achievement (SAICM 2016a). Comprising such different organizations, the IOMC members are, overall, likely to take a comprehensive approach to implementing the SDGs, including their SMCW aspects.

Key concepts that need to be emphasized and implemented in order to contribute to the SDGs via SMCW – in particular from a chemical industry perspective – include recycling, the life-cycle approach, information exchange about chemicals in the value-chain, safe disposal of obsolete chemicals and products containing problematic chemicals, the circular economy, and extended producer responsibility (UNEP *et al.*

2016). In addition, it is important that SMCW is made part of any development planning processes at the national level.<sup>57</sup>

There is a need to adopt an integrated approach that would consider different SDGs in a comprehensive and compatible manner, ensuring that there are links between different goals and their implementation plans and measures. Effective implementation of SMCW in an SDGs context also requires effective implementation of existing commitments, especially with regard to the BRS Conventions.

At the administrative or policy-making level, good and effective governance is essential for the implementation of SMCW in the SDGs (UNEP *et al.* 2016).

For effective implementation of the 2030 Agenda for Sustainable Development, it would be important to have some kinds of indicators or benchmarks to measure success. The UN Statistical Committee agreed on a preliminary global indicator framework for the SDGs in March 2016.<sup>58</sup> Regarding the indicators for the implementation of SMCW, the post-2020 process could refine and, where relevant, complete/add the set of indicators to be adopted at ICCM5, and then convey the set of indicators to the Statistical Committee.

In addition, the Issue Management Group on Sound Management of Chemicals and Waste under the Environment Management Group has been working to support the integration of SMCW into the SDGs. The work on developing indicators could benefit from the qualitative information gained under SAICM.

#### **The proposed list of topics for monitoring by the EMG**

- Number of countries with National Profiles.
- Number of countries implementing GHS.
- Number of countries with a PRTR.
- Number of countries with Poisons centres.
- Countries with controls for lead in decorative paint.
- Number of countries that have achieved core capacities for chemicals under the International Health Regulations.
- Number of countries with pesticide legislation referencing or based on the International Code of Conduct on Pesticide Management.
- Number of countries with an effective pesticide evaluation and registration system and/or participating in a regional scheme.

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<sup>57</sup> See, for instance, the UNDP – UNEP Partnership initiative for the integration of sound management of chemicals into development planning processes.

<sup>58</sup> <http://unstats.un.org/sdgs/>

- Number of countries taking action to reduce risks from pesticides (e.g. a policy, action to ban problematic pesticides, actively promoting ecological and biological control options, food safety programmes in place etc.).
- Number of parties to the Basel, Rotterdam, Stockholm and Minamata Conventions.

In contrast, it has been argued that measuring progress towards the achievement of the SDGs and implementation of SMCW is primarily a national endeavour and serves national objectives (UNEP *et al.* 2016). There could be global, regional, and national indicators applicable at the same time. Accordingly, a collection of indicators that countries could adapt to their different national needs would help countries choose those that are best tailored to their individual priorities and national circumstances. However, such a set of indicators would require national self-assessments and carefully set baselines (UNEP *et al.* 2016), and it is possible that not all countries would have the capacity or even interest for such large-scale work. In any case, the indicators need to be clearly measurable and technically sound and appropriate.

## 5.2 Synergies with MEAs in the chemicals and waste cluster – involving SAICM

The synergies process essentially aims to enhance cooperation and coordination among the Basel, Rotterdam, and Stockholm Conventions for the purpose of delivering a more coherent and effective international legal regime for the governance of chemicals and waste. The Decisions on enhancing cooperation and coordination among the Conventions, made by the Conferences of the Parties of each Convention<sup>59</sup>, recognised that the overarching goal of all three conventions is the protection of human health and the environment for the promotion of sustainable development, and that the objective of enhanced coordination and cooperation among the three conventions is to contribute to the achievement of that goal.

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<sup>59</sup> Decision BC-IX/10, Decision RC-4/11, Decision SC-4/34.



The collaborative process involves national, regional, and global synergizing on organizational and technical issues, information management, public awareness, administrative issues, and decision-making in the areas covered by the conventions. Over the years, the Conventions have had numerous joint activities, including back-to-back COPs and other kinds of institutional streamlining and procedural and administrative cooperation (e.g. synchronized budgetary cycles, joint audits). Most recently, in 2015, the COPs of each Convention adopted identical decisions, further enhancing the synergy process in the fields of international cooperation and coordination,<sup>60</sup> on the implementation of the integrated approach in financing sound management of chemicals and wastes,<sup>61</sup> and on a clearing-house mechanism for information exchange, among other areas.<sup>62</sup>

SAICM supplements the BRS Conventions and the synergies process. Through joint decisions,<sup>63</sup> the Conferences of the Parties to the three Conventions have requested the BRS Secretariat to enhance cooperation and coordination with SAICM.<sup>64</sup> Accordingly, the decisions have broadened the synergistic implementation of the joint programme of work of the BRS conventions to encompass activities of SAICM and the Minamata Convention. Partly as a consequence, there have been various collaborative efforts between SAICM and the BRS Secretariat, including information input, exchange of information, joint events, participation in SAICM activities, and vice versa (SAICM 2015k). The BRS Secretariat participates in SAICM meetings and provides inputs to relevant SAICM processes in areas of common interest. For this purpose, the BRS Secretariat and the Chemicals and Waste Branch of UNEP established an internal task-force in 2014. The BRS Secretariat has stated that it will continue to contribute to the implementation of SAICM, providing inputs to relevant processes in areas of common interest and undertaking cooperative activities with the Strategic Approach Secretariat (SAICM 2016a). The Post 2020 Framework provides a good opportunity to develop synergies.

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<sup>60</sup> Decision SC-7/27, Decision RC-7/9, Decision BC-12/17.

<sup>61</sup> Decision SC-7/22, Decision RC-7/8, Decision BC-12/18.

<sup>62</sup> Decision SC-7/29, Decision RC-7/11, Decision BC-12/21.

<sup>63</sup> Decision SC-7/27, Decision RC-7/9, Decision BC-12/17.

<sup>64</sup> See e.g. PIC, 2015a which "[r]equests the Secretariat to continue to enhance cooperation and coordination within the chemicals and wastes cluster, in particular to facilitate activities at the regional and country levels that would support the implementation of the agreements in the cluster in areas of mutual interest, and to consider which activities of the programmes of work may be effectively implemented in cooperation with other entities within the cluster;".

Regarding future collaboration, the BRS activities could include, for instance, technical and policy guidance inputs to relevant emerging issues under SAICM, whereas the SAICM Secretariat could share information on, for instance, ongoing/approved projects that are relevant to the implementation of the BRS Conventions (SAICM 2014d; SAICM 2016b). In addition, there is an opportunity for increased collaboration in the area of reporting and information gathering from parties (SAICM 2014d). In other words, the clearing-house mechanism of SAICM could benefit from deeper cooperation with the BRS Conventions.

The SAICM Overarching Policy Strategy states the objective that “sessions of the ICCM should be held back-to-back with meetings of the governing bodies of relevant intergovernmental organizations in order to enhance synergies and cost-effectiveness and to promote SAICM’s multi-sectoral nature”.<sup>65</sup>

Besides the BRS Conventions, SAICM could establish synergies with the Montreal Protocol. The Global Plan of Action identifies the Protocol as a relevant actor on many occasions in the work area and activities of SAICM. Possible measures in the synergies include identifying practical ways to integrate the Strategic Approach into the work programmes of the Montreal Protocol and its Multilateral Fund; incorporating its objectives into their work programmes; and considering whether and how the Protocol and its Multilateral Fund might support implementation of relevant Strategic Approach objectives (Miller and Batchelor 2013). Furthermore, there is scope for information exchange between SAICM and the Montreal Protocol and/or integration with the development of national or regional SAICM implementation plans. SAICM plans could also be encouraged to build on, or cooperate with, the existing national and regional infrastructure of the Montreal Protocol (Miller and Batchelor 2013). However, the adequacy of funding for the new activities should be ensured first.

The Montreal Protocol could also provide lessons on developing synergies with other international environmental regimes, since the ozone regime is engaged in close cooperation with the international climate regime. Some ozone-depleting substances are also greenhouse gases. The Montreal Protocol has sought synergies in this respect with the UNFCCC (Ozone Secretariat 2016a), and the Parties have very recently agreed on an amendment to the Protocol on hydrofluorocarbons (HFCs) management. According to scientists, reducing HFCs under the Montreal Protocol can avoid 0.5°C of global warming by the end of the century, while continuing to protect the ozone layer (Ozone Secretariat 2016b). The two regimes remain, however, firmly distinct.

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<sup>65</sup> Para. 25.

## 5.3 Support from the concepts of the circular economy and sustainable chemistry

### 5.3.1 *Circular Economy*

The concept of a circular economy, or inclusive green economy as it is called by UNEP, or the green growth concept as utilized by the OECD, is built upon the notions of sustainable development and life-cycle thinking. It refers to the sustainable use of resources in such a way as to promote closed-loop product life-cycles, through enhanced reuse and recycling and the minimization of waste. In December 2015, the European Commission adopted the Circular Economy Package, which includes an EU Action Plan that sets in place concrete measures to be taken targeting all phases of product life-cycles (production, consumption, and waste management) and a specific timeline for when actions are to be completed (EC 2015). At the international level, in Quito, Ecuador, in October 2016, governments adopted the New Urban Agenda with a universal aspiration to strive to transition towards a circular economy in the coming two decades (para. 71).

The sound management of chemicals and waste is an integral aspect of the circular economy. The EU action plan specifically discusses chemicals in the context of the secondary raw materials market (as chemicals of concern to human health and the environment can often be found in recycling streams) and highlights the importance of the substitution of harmful chemicals in products with non-toxic materials. In particular, the EU Action Plan points to the necessary interlinkage between regulatory measures that target distinct lifecycle phases:

The interaction of legislations on waste, products and chemicals must be assessed in the context of a circular economy in order to decide the right course of action at EU level to address the presence of substances of concern, limit unnecessary burden for recyclers and facilitate the traceability and risk management of chemicals in the recycling process (EC 2015).

While the aim of transitioning to a circular economy has gained high political priority within EU member states, the EC aims to reinforce the concept on a more global level through international cooperation. A series of “Circular Economy Missions” to third countries, organized by the Directorate-General for the Environment, are intended to enhance EU cooperation on circular economy issues with non-EU states and other global stakeholders.

As the most contemporary and most holistic sustainable development paradigm to date, the circular economy concept provides an effective and innovative approach and element in the sound management of chemicals and waste, an area that has classically been addressed from the point of view of technical end-of-pipeline solutions.

### 5.3.2 *Sustainable chemistry*

The concept of sustainable or green chemistry means the substitution of harmful or hazardous substances with sustainable substances, products, and alternatives. This contributes to the conservation of natural resources, the protection of the environment and human health, and the realisation of sustainable development. Indeed, sustainable chemistry contributes to the achievement of all sustainable development goals (UNEP *et al.* 2016). It is estimated that chemical production using green chemistry accounts for only 1% of global chemical industry production as a whole (Matus *et al.* 2012).

In essence, sustainable chemistry goes beyond the benefits for health and the environment (UNEP *et al.* 2016). The key objective is the maximization of resource efficiency. This can be achieved through activities such as energy and non-renewable resource conservation, risk minimization, pollution prevention, minimization of waste at all stages of a product life-cycle, and the development of products that are durable and that can be reused and recycled (OECD 2004).

Sustainable chemistry has received increasing attention and has been described as “a potential game changer in terms of the design, production and use of chemicals” (UNEP 2015a). Accordingly, it could contribute significantly to the shaping of future chemicals management, provided that the opportunities and concerns of all countries are taken into consideration (UNEP 2015). The realisation of sustainable chemistry necessitated significant industry involvement from the beginning, effective partnerships, and effective cooperation.

## 6. Options for the institutional form of the Post-2020 Framework

### 6.1 Introduction

#### 6.1.1 *Evaluating progress on the 2020 Goal*

Global cooperation and knowledge generation on chemicals have significantly evolved since the adoption of SAICM in 2006. Intensifying demands on the part of citizens and consumers for sustainable products, safe work, and healthy environments will promote the issue of the sound management of chemicals and waste to become an increasingly important priority on the global sustainable development agenda. There has been notable progress made by national governments, international and intergovernmental organizations, and leading businesses on managing the risks of toxic and hazardous chemicals. However, it is generally acknowledged that the pace of this progress has been inadequate; the problems associated with the contemporary increase in production and use of hazardous chemicals and waste have multiplied (UNEP 2012a). Our current global governance landscape over chemicals and waste remains incomplete. There are gaps in knowledge and research on the health and environmental hazards of chemicals and waste, gaps in the coverage of hazardous chemicals and waste under international environmental agreements, and a lack of implementation and enforcement of the international regulatory frameworks that do exist. No institution is responsible for exercising strategic oversight and monitoring with respect to chemicals and waste management.

The aspirational 2020 goal that has propelled international chemicals and waste management policy has been unable to deliver an effective international framework to protect human health and the environment from the adverse effects of chemicals and waste. In this context, the international community needs to reassess what can realistically be expected from pursuing the present approach to the global governance of hazardous chemicals and waste, and what may be added through a revived and broadened international legal framework. This section aims to highlight possible options in this regard and thus discusses prospective pathways for the design of a post-SAICM regime.

### 6.1.2 *Fragmentation and synergies*

The fragmentation of international environmental law, in particular of multilateral environmental agreements, has received increasing attention in recent years. Fragmentation can be perceived as an inevitable feature of international environmental regulation, but it also has some problematic consequences.

In the area of international chemicals regulation, separate instruments have been developed in response to specific challenges that have been recognised by states and around which they have been able to create an agreement. The resulting international governance framework for the protection of the environment and human health from chemical hazards is narrow in its regulatory reach. A multitude of legal instruments and other initiatives have been adopted to address the proliferation of industrial and agricultural chemicals and waste in our environment – for instance, the Basel, Rotterdam, and Stockholm Conventions, the recent Minamata Convention, and several regional legal instruments. However, only a fraction of the “tens of thousands” (UNEP 2012a) of chemicals that circulate the globe every day in agricultural and industrial manufacturing and consumption chains are subject to international environmental and human health oversight and regulation.<sup>66</sup> International treaties on chemicals and waste have been framed as narrowly as possible, to cover only a very limited range of substances. The existing instruments address a group of chemicals in particular phases, or the entire life-cycle of just one substance (such as the Minamata Convention on Mercury).

Gaps in scientific understanding have led to gaps in treaty coverage. While there is broad consensus on the need to act urgently on the highly destructive impacts of the globalized use of toxic chemicals, scientific knowledge regarding chemicals is not always readily available or accessible. Scientific uncertainty over the full life-cycle effects of some already known-to-be highly toxic substances, and political reluctance to regulate substances that are used in commercial activity, have prevented the international community from taking meaningful action to control the substantial risk these chemicals pose to human health and the environment.<sup>67</sup> Moreover, there is a lack of research on how the regulation of chemicals and waste applies to the informal sector that is such a significant part of the economies of many countries, and particularly developing countries.

Consequently, it can be said that the global regime for chemicals and hazardous waste has developed in a somewhat ad-hoc manner (UNEP 2010). A number of MEAs

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<sup>66</sup> Downstream industries include electronics, plastic, cement and textile manufacturing, among others.

<sup>67</sup> For instance, the regulation of chloro paraffins under the Stockholm Convention.

have been negotiated, but no general international legal framework has been established to ensure that the overall goal of sound management is achieved (UNEP 2010). Moreover, the contemporary global chemicals and waste landscape continuously presents novel issues that go beyond existing international environmental legal approaches.

For example, one such issue is the rapid emergence of the electronic waste stream, which is a source of economically important precious metals, as well as highly toxic substances. The issue of e-products illustrates the complex overlap between the regulation of products, chemicals, and waste. While the recycling of electronic products is the preferred management approach from an environmental and circular economy perspective, e-waste recycling industries in many developing countries present hazardous risks for workers and the environment.<sup>68</sup> As new products can be made from non-renewable resources derived from used e-products, the improper recycling of e-waste can yield secondary resources contaminated with harmful chemicals and heavy metals (such as flame retardants, lead, or cadmium). These contaminated materials and metals can then become integrated into new products destined for global markets such as children's jewellery, food contact items, and toys (Puype *et al.* 2015; Weidenhamer and Clement 2007; Guney and Zagury 2013). Evidently, the realisation of global sustainable development goals relies heavily on our ability to effectively trace harmful chemicals in products and to manage their extended risks. And yet, even in jurisdictions that have the most progressive chemicals and waste regulation, hazardous chemicals continue to pose important risks, often embedded in seemingly harmless products, unbeknownst to consumers.

Another contemporary global concern is that chemical production is well known to be moving to developing countries, where institutional infrastructures and regulatory frameworks do not offer the same level of protection as in post-industrialized countries. The capacity gap between developed and developing countries in chemicals and waste management is increasing.<sup>69</sup>

While the fragmented approach to managing chemicals and waste has perhaps been the only realistic way to create consensus on regulatory measures at the international level, it has evident weaknesses – most notably, a lack of coherence and a failure to address the management of all potentially hazardous materials in a comprehensive manner (Kummer Peiry 2014). From a sustainable development perspective, it is ineffective and unrealistic to address all chemicals in global

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<sup>68</sup> For a discussion of the challenges of international e-waste regulation, see Khan 2016.

<sup>69</sup> UNEP Global Chemicals Outlook points out that while production share is moving to developing and transition economies, the capacity for environmentally sound management is worsening.

circulation, one at a time, in separate legal instruments. The negotiation and continuous development of several loosely related treaties inevitably leads to significant costs and use of resources, often with duplicative effects. Moreover, the legal mandates of the existing chemicals and waste conventions are expressly defined and do not permit an organic expansion of their scope to encompass the broad array of hazardous materials and activities not currently covered by them.

Today, there is a general global consensus that the current international regulatory framework for chemicals and waste is fragmented and contains many critical lapses. These lapses pertain in part to the range of chemicals covered and to the coordination and scope of reporting mechanisms, including information on progress in real implementation and enforcement. In this context, development of the synergies process within the BRS Conventions has been a widely embraced development.

UNEP stated in 2010, mainly giving impetus to the development of BRS synergies but also applicable to international chemicals regulation more broadly: "Acknowledging that codification and progressive development are needed in the international law on chemicals and that those processes would promote future synergies between international instruments on and approaches to sound chemicals management." (UNEP 2010) The "approaches" appear to refer to SAICM.

Since each convention is limited in scope, coordination efforts under the synergies process mainly benefit areas where the Conventions overlap or complement each other. SAICM, on the other hand, as a multi-stakeholder and voluntary framework, has been designed with a much broader objective (namely, the "2020 goal") and thus can be seen as encompassing the synergies process and also extending its potential governance reach far beyond the narrowly construed regulatory scope and other limitations of the legally binding BRS Conventions.

While legal as well as administrative, financial, and political considerations limit possibilities for a more comprehensive coverage of chemicals and waste within existing treaty frameworks, the voluntary SAICM has provided an inclusive and broadly framed mechanism for global cooperation. Under SAICM, controversial and emerging chemicals and waste concerns have been successfully brought to the forefront of global attention, dialogue, and action. Even though the voluntary dimension of the policy framework can be viewed as limiting its practical effectiveness, it is precisely the non-binding character of SAICM that has anchored its widespread relevance and its unique potential to bring issues to the attention of lawmakers on a global level.



### 6.1.3 *The need for a more strategic approach*

Sustainable governance of the vast array of chemicals, waste, and activities related to them requires strategic oversight. A central weakness of SAICM is that it has not worked in a sufficiently strategic way. Some improvement to this aspect was brought by the Overall Orientation and Guidance document, which was adopted at the ICCM<sub>4</sub> meeting in 2015. To realise a more strategic approach, the OOG should be properly implemented. As mentioned above, the OOG provides greater clarification to governments on the practical dimension of achieving objectives laid out in the OPS by identifying six core activity areas in relation to 11 basic implementation elements. These include: (1) enhancing multi-stakeholder responsibility and engagement, (2) strengthening national legislative frameworks for chemicals and waste management, (3) mainstreaming chemicals and waste in the SDG Agenda, (4) promoting information sharing and action on issues beyond the existing legal agreements, (5) promoting public access to information, and (6) assessing progress towards the 2020 goal by identifying achievements, understanding implementation gaps, and prioritizing actions for 2020.<sup>70</sup>

As discussed earlier, this recent development of an OOG under SAICM is beneficial to global stakeholders in the sense that it consolidates the necessary elements of what is essentially an extremely broad objective encompassing hundreds of activities listed in the Global Plan of Action (GPA). Given that the OOG embodies the extensive experience gained through SAICM, it provides critical guidance to the development of a post-2020 regime. Considering the high political relevance of the 2030 Agenda and the critical contribution of the OOG to the 2020 goal, these instruments are taken as fundamental guidance in the institutional proposals elaborated below.

## 6.2 **Elements and options for the post-2020 institutional form**

As the 2020 deadline approaches, several options for reform are possible, reflecting varying levels of ambition. At the very basic level, SAICM stakeholders will need to renew the relevance of the Johannesburg Plan of Implementation beyond 2020. In this respect, any new declaration, framework, or agreement should re-affirm the central importance of SMCW to the realisation of the 2030 Agenda. In particular, it needs to be emphasized that the prevention and minimization of adverse effects of

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<sup>70</sup> Para. 22.

all hazardous chemicals and waste on human health and the environment constitute the basis for SMCW, which is a fundamental objective of the SDGs. This is to say that the governing instruments succeeding SAICM should be intrinsically aligned with the SDGs.

Moreover, the post-SAICM instrument should build on the successes of SAICM and learn from its challenges. In this respect, one of the remarkable achievements of SAICM has been to frame its broad, comprehensive, and ambitious scope into a concise set of eleven (11) elements that are critical to establishing SMCW nationally and regionally, and to have further identified six (6) core activity areas to be prioritized in order to achieve the 2020 goal. These basic global criteria for SMCW, which are consolidated in the OOG, reflect the progress of SAICM over its lifetime and should be seen as providing the fundamental aspects on which any post-SAICM regime should be based. Other aspects to consider based on the experience of SAICM include the adoption of new targets, better indicators, renewed financing, updated timeframes, and the prospects of establishing scientific, technical, and enforcement-oriented bodies in the context of the future, SDG-oriented regime. Depending on the level of ambition of the governmental and other stakeholders involved, these important SAICM outcomes could be drafted into a declaration, joint statement, or agreement, with either voluntary or binding effect.

At a higher level of ambition, the participatory ICCM could host the adoption of a new multilateral or global agreement targeting a broad and dynamic range of hazardous chemicals and waste. The Arctic Council (AC) serves as an important model in this regard. While it is officially designated a high-level political forum with no legal effect, the multi-stakeholder and inclusive AC has led to the adoption of two (2) legally binding agreements between AC member states. Moreover, under the AC, the eight Arctic states have, for the first time, agreed upon a collective climate goal of curbing emissions of black carbon through a voluntary framework agreement that can also be implemented by corporations, municipalities, and other stakeholders. It is certain that the ICCM, as an inclusive body implicating corporate and civil society organizations, should not be ignored in the discussion of where to initiate discussions on international regulatory reform.

The feasibility and scope of possible institutional reforms, including those that draw closely on the SAICM model and those that extend a much more authoritative regulatory reach than SAICM, are further discussed below. From the outset, it can be said that it is uncertain whether the future chemicals and waste regime is likely to follow current trends in international environmental law, and this will undoubtedly depend on the experience of the inter-sessional process leading to 2020 and the pending SAICM implementation progress review.

With regard to emergent trends over the years, there has been an overall rapid production of soft law mechanisms, with environmental and other bodies of international law navigating away from strict legal formalism. The legally binding dimension of newly negotiated instruments (such as the Paris Agreement) remains bound up in informational processes and procedural requirements, with the actual substantive national commitments remaining unenforceable (i.e. legally non-binding) from an international legal point of view. In the case of the Minamata Convention, the implementation and compliance committee mechanism is facilitative rather than authoritative.<sup>71</sup> Following the negotiation of the Paris Agreement, it remains to be seen whether any new globally scaled legal processes on hazardous chemicals and waste are likely to rely on transparency and compliance-facilitation rather than traditional enforcement and compliance bodies as a mechanism for accountability and effectiveness (Bodansky 2015). It is important to frame proposals for reform in the context of these other recent developments in international environmental law.

From an aspirational perspective, a future global regime for SMCW would strengthen regulatory and practical commitments relating to the life-cycle of a wide array of chemicals and waste in global circulation. At the same time, we have seen that gaining international consensus on certain chemicals and waste as constituting substances that pose an imminent danger to humans and the environment continues to be a persistent challenge under all three BRS regimes. In particular, the international trade dimension of this problem cannot be overlooked. Nanomaterials, e-products, and hazardous pesticides are all *goods* in international commerce marked for greater scrutiny under the SAICM framework, and in certain cases are also discussed under specific treaty regimes (BRS). In these emerging issue areas, significant disagreement exists over what danger is posed by these products and what type of regulation is necessary to curtail their hazardous impacts. Hence, while a coherent and expansive global, legally binding agreement to regulate chemicals and waste could be seen as long overdue, it should be noted that any such instrument will most probably entail a lengthy negotiating process. If the legally binding outcome of any such agreement is mainly procedurally oriented, and seeks to affirm the voluntary guidance of international standards rather than create substantive norms, the negotiating process is likely to be shorter.

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<sup>71</sup> Art. 15.

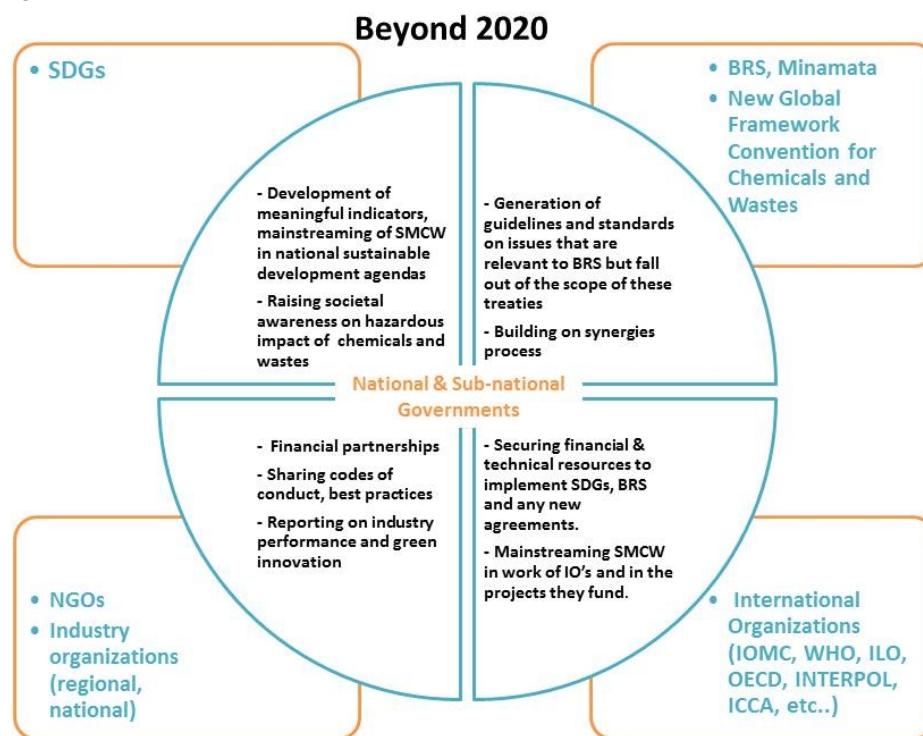
It is certain that the management of chemicals and waste is a fundamental dimension of the 2030 Agenda, as well as an integral part of the objective of a circular economy. At the very least, the Post-2020 Framework should result in enhanced commitments to transparency and accountability in the life-cycle management of chemicals and waste, scientific knowledge-generation, and GHS and OOG implementation. At a higher level of ambition, the 2020 deadline may signal the beginning of a comprehensive new international treaty on the life-cycle of all chemicals and waste in present and future global circulation. Recent resolutions of the UNEA (esp. Res. 2/7 “Sound management of chemicals and waste”) and SAICM, as well as the pending 2020 deadline, reflect how some systemic change is necessary in our fragmented approach to chemicals and waste governance. In general, the strength of any agreement, be it voluntary or binding, will ultimately depend on how ambitiously governmental and other actors follow through with practical implementation.

## 6.3 Voluntary approaches

### 6.3.1 *Incremental improvements framework approach based on SAICM (“Beyond 2020”)*

The institutional form of future international chemicals regulation needs to respond to identified problems, such as a lack of political clout and “teeth”, difficult terminology that does not resonate with the general public or the private sector, an emphasis on minimizing harmful effects that has overshadowed economic possibilities (e.g. sustainable chemistry), a vague indicator framework, a poor level of review, and monitoring in developing countries.

Figure 3: Beyond 2020 improved voluntary approach



Under an improved voluntary approach scenario (referred to here as “Beyond 2020”), SAICM would carry on in the form of a non-legally binding instrument, playing a supportive role to governments in their implementation of the 2030 Agenda and the international legal regime for chemicals and waste (BRS and Minamata Conventions, and possibly a new Global Framework Agreement for Chemicals and Waste). Moreover, the improved voluntary framework would coordinate the actions of governments, international organizations, NGOs, and industry actors on the 2030 Agenda and the international chemicals and waste treaties.

The Beyond 2020 Framework would place governmental actors at the centre of global chemicals and waste management. In relation to the SDGs, priorities under Beyond 2020 would involve the development of more meaningful indicators, assistance to government stakeholders in the mainstreaming of chemicals and waste in national sustainable development agendas, and raising societal awareness on the hazardous impact of chemicals and waste.

In relation to the international legal regime, Beyond 2020 would play a complementary role focused on advancing scientific studies, reports, guidelines, and international standards on issues that are marked as new areas of concern under the international treaties, but that fall beyond their narrow regulatory scope. This type of work would subsequently feed into the synergies process and provide input into the BRS COPs.

As for international organizations, actions under Beyond 2020 would be targeted towards mainstreaming SMCW in the work of international organizations and the projects they fund, as well as securing new financial mechanisms and technical resources to implement SDGs, the BRS and Minamata Conventions, and any new treaties that are adopted, such as a Global Framework Convention on Chemicals and Waste.

Finally, Beyond 2020 would involve NGOs and other civil society participation in a robust way, including with respect to providing informational and analytical input, communicating proceedings to communities, and helping ensure implementation of output. Cooperation with industry organizations would be aimed at securing financing partnerships, providing input on codes of conduct and best practice guidelines, and contributing to reports on industry performance.

The institutional needs for such a prospective approach essentially include a global forum for decision-making, such as the multi-stakeholder and multi-sectoral ICCM. Ideally, a global body would allow for inclusive and open debate and negotiations, on the basis of which governmental agreements could be produced on specific issues.

Other institutional needs to be considered include a secretariat, as well as funding and review mechanisms. Additionally, technical and scientific working groups could be established to examine emerging issues and produce relevant science-policy knowledge that would inform other global processes. These aspects could be determined based on the existing SAICM infrastructures and in cooperation with existing international institutions.

### **6.3.2 *Alternative voluntary approach: National Action Plan Mechanism***

A different scenario under the voluntary approach could take the form of an commitment to take enhanced actions on the sound management of chemicals and waste at the national level, on a range of specifically negotiated issues (for example, the 11 elements of the OOG). Government stakeholders would essentially agree to implement progressive SMCW measures and to report them periodically to a body

such as the ICCM. A collective progress evaluation by an independent expert body would examine national action plans and make recommendations, allowing for a periodic taking stock of progress.

Even on a voluntary basis, an enhanced action plan mechanism could deliver precise benefits if associated with a ratcheting procedure similar to that which has been adopted in the area of climate change under the Paris Agreement. The Arctic Council has also adopted an iterative review mechanism for emissions of short-lived climate pollutants under the Arctic Council Framework Agreement for Enhanced Actions on Black Carbon and Methane.

A similar approach on chemicals and waste would entail governments embarking on commitments that would also be open to other relevant stakeholders, such as chemicals manufacturers. Specific obligations would comprise commitments to producing an action plan detailing measures taken to enhance SMCW, and committing to scaling up initial measures periodically (every 5 years, for example) under the review of an independent expert body. These action plans, which would be submitted to an ICCM-type body, could serve as an information-consolidating mechanism, relying on and building upon national submissions to the BRS secretariats and to the Minamata Convention (once it has entered into force). Reviews of national action plans by the independent expert group would then serve to inform decision-making in an ICCM-type body, including the adoption of resolutions and possibly even binding commitments. The adoption of this type of an independent iterative review mechanism would promote active implementation amongst governments and encourage a systemic re-evaluation of regulatory efforts while conserving the dynamic, flexible, and voluntary nature of SAICM.

A voluntary approach of this nature would see the current SAICM evolving in the direction of a global experimentalist governance (GXG) regime, an iterative and non-hierarchical form of global regulation. A notion formulated and explained by De Burca *et al.* (2014), GXG is “an institutionalized process of participatory and multilevel collective problem solving, in which the problems (and means of addressing them) are framed in an open-ended way, and subjected to periodic revision by various forms of peer review in the light of locally generated knowledge.” (DeBurca *et al.* 2014)

What is interesting about this regime approach is that it is primarily focused on achieving collective progression from individual national experiences and best practices, distinguishing it from punitive approaches to monitoring. The periodic obligation to scale up national actions provides an internal catalytic mechanism for continuous progression on SMCW, tailored to national industrial and environmental contexts and in consideration of a country’s specific level of development.

It is hoped that any prospective voluntary approach would harness the dynamic and practical aspects of SAICM, whether it is broadly framed in the context of the SDGs and the international treaties (such as the Beyond 2020 Framework), or more precisely focused along the lines of implementing the OOG (such as the National Action Plan mechanism). The most positive aspect of voluntary approaches is that their non-binding nature can incite greater participation in a shorter time-frame than legal approaches. Voluntary approaches in environmental management can cover a broader scope and include obligations and accountability mechanisms that are more precise and substantively demanding than those found in international legal instruments.

## 6.4 Treaty approaches

### 6.4.1 *The global treaty approach*

There is still a strongly held perception among some that legal bindingness may promote greater effectiveness in nurturing amongst states a deeper sense of compliance as not just optional, but compulsory (Bodansky 2016). Additionally, given the regulatory gaps in the current international legal framework governing chemicals and waste, a global treaty approach also needs to be considered. The symbolic relevance of the 2020 deadline and the recently concluded Minamata and Paris Agreements could provide the necessary impetus for an ambitious new international regulatory framework for chemicals and waste.

The adoption of a framework agreement on chemicals and waste would be a progressive development signifying a shift away from the trend of fragmented governance that has prevailed thus far in the field of international environmental law. The framework agreement would embody fundamental SMCW principles and could be complemented by: (a) international standards, (b) voluntary guidelines, or (c) protocols for different (groups of) chemical substances. By signing on to the Global Framework Agreement, governments would bind themselves to strengthening their respective national chemicals and waste legislation according to the relevant standards, guidelines, or protocols. The difference between protocols, international standards, and voluntary guidelines is that protocols reflect specific legal obligations while standards and guidelines are voluntary instruments.



Substantive commitments in the treaty would be elaborated under the specific protocols, international standards, or voluntary guidelines. Under one scenario, the core elements of SAICM could even be integrated into the new framework agreement as the SAICM Protocol (Tuncak and Ditz 2013).<sup>72</sup> In the same vein, it has been proposed that the BRS Conventions should be integrated as Protocols to a global chemicals and wastes Convention. This would provide ample opportunity to continue efforts towards the consolidation of elements, as needed to further maximize synergies between the existing chemicals and waste treaties (Tuncak and Ditz 2013). Generally, the use of protocols for more specific commitments would give flexibility to the treaty regime to address new issues as they emerge. Furthermore, where the negotiation of protocols is seen as too time-consuming or unrealistic (e.g. because of discrepancies between governments in their approach to regulating certain substances), Parties can opt to adopt voluntary guidelines or international standards in lieu of protocols.

The regime design necessary for a progressive and ambitious new treaty has been described as “a legally binding agreement with the breadth of SAICM and the rigor of the Stockholm Convention.” (Tuncak and Ditz 2013) Indeed, SAICM shares many characteristics with a framework treaty; it was designed as an umbrella mechanism to guide different management efforts (Selin 2010). In 2015, a meeting of senior government officials expert in environmental law, convened under UNEP, made a recommendation to conduct a study on the feasibility of a framework convention in the field of chemicals (UNEP 2015b).<sup>73</sup> Such a study has not yet been produced.

It seems certain that the adoption of a new global agreement on chemicals would require a long time horizon; for instance, conclusion of the Minamata Convention took 15 years. Consequently, it is quite possible that a new global treaty might only be concluded between 2030–2040, although an earlier resolution might also be possible. A global framework convention would focus on future commitments using a bottom-up approach tailored to national contexts, and thus would be far less detailed and prescriptive than the Minamata Convention. It is worth noting that negotiations towards the Paris Agreement were launched only 4 years before its conclusion, at UNFCCC COP 17 in 2011 with the Durban Platform for Enhanced Action. A global framework convention for chemicals that resembles the Paris Agreement in its

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<sup>72</sup> To create as inclusive a structure as possible, the Conference of the Parties could decide to create one protocol of sufficient breadth to address known and foreseeable issues that are not already covered by effective, existing global conventions (Tuncak and Ditz 2013).

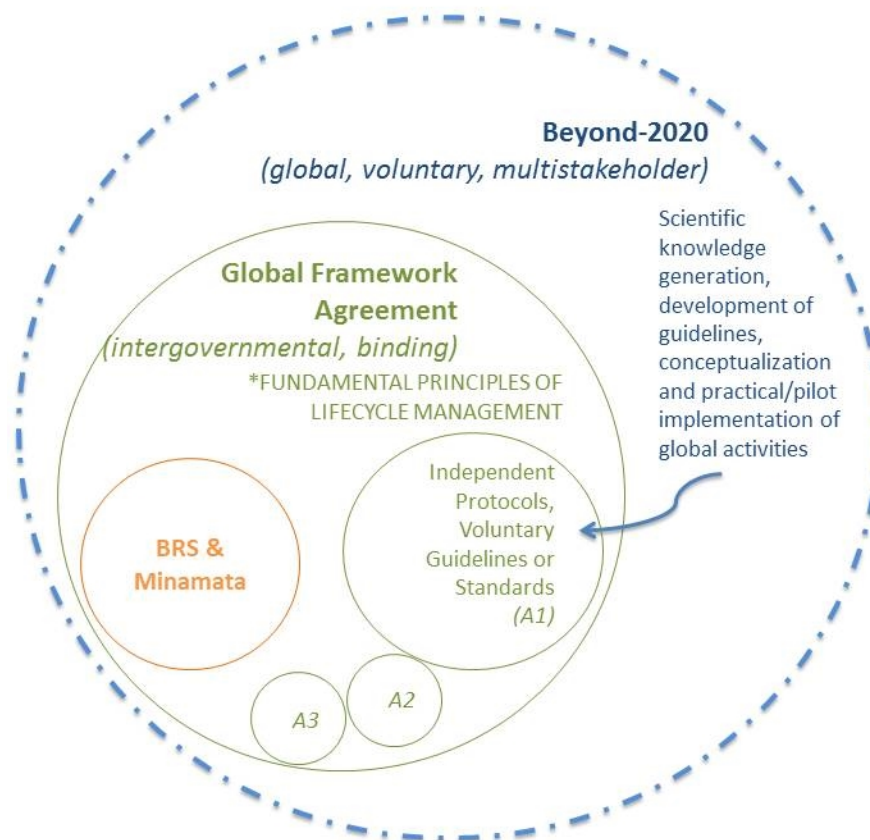
<sup>73</sup> It is notable that already in the late 1990s, proposals were made that UNEP should commence the development of a framework convention dealing with chemicals in the environment (Perrez 2006).

structure could similarly be negotiated in a swift time-frame of under 5 years, given that states feel similar pressure to take action.

While the time-frame and costs associated with the negotiation of a new global treaty may seem daunting to governments, it is also critical to highlight that the 2020 deadline is not only of symbolic and political importance, it is also when the existing time-bound global framework will have reached the end of its lifeline. The 2020 goal that has been adopted as a global objective will have to be transformed into another objective, taking into consideration the context of contemporary developments such as the SDGs, as well as the concepts of the circular economy and life-cycle thinking. Because of the significance of the 2020 goal, its coming to term represents an unprecedented and unique moment for the international community to re-evaluate the purpose, expectations, and infrastructures of our global regime for chemicals and waste. It has been argued that a new framework agreement on chemicals would be likely to attract more predictable and adequate financial resources (Tuncak and Ditz 2013). The expected benefits also include the internalization of costs of sustainable chemicals management on a global scale. Evidently, this would mean industries taking on enhanced responsibilities in preventing and managing the hazardous impacts of chemicals being manufactured and used.

Drawing on the existing international legal instruments for chemicals and waste, a comprehensive and dynamic global framework agreement for ESM of chemicals and waste could be envisioned as encompassing a set of basic principles derived from the SAICM Dubai Declaration, the OPS, and the BRS regimes. These principles would apply to all SMCW, combined with a series of guidelines, standards, or protocols that contain specific measures targeting different clusters of substances at critical moments in their life-cycle. The voluntary instrument described above as *Beyond 2020* could work in relation to a new Global Framework Agreement by generating scientific knowledge and gathering practical implementation experiences that would subsequently be used in the formulation of new protocols, guidelines, or standards.

Figure 4: A New Global Framework Agreement and its relationship to Beyond 2020 and existing MEAs on chemicals and waste

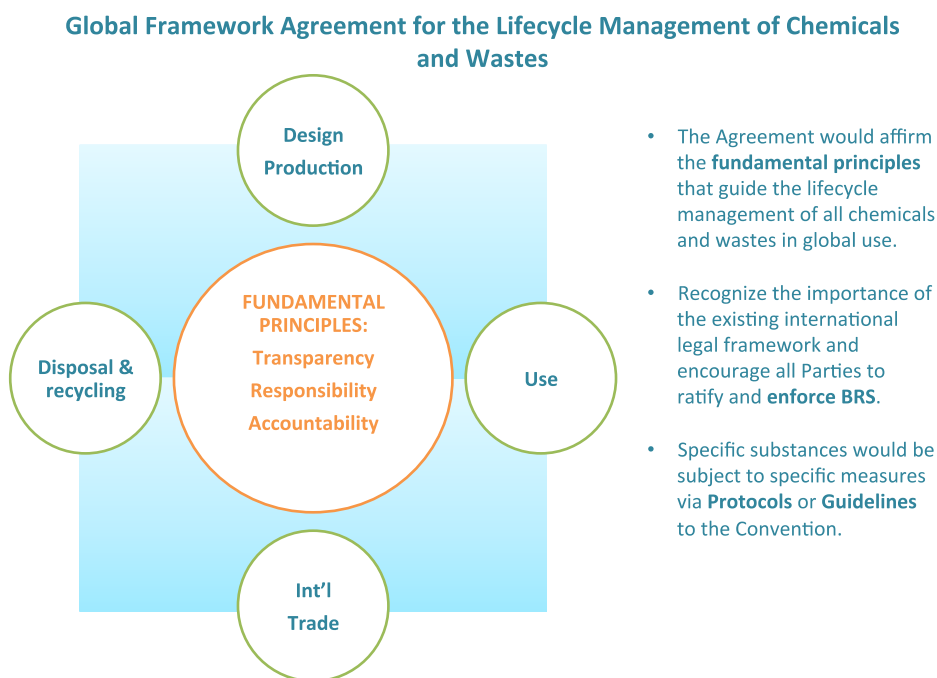


Basic elements of a new global framework agreement on chemicals could include the following: a definition of hazardous substance; fundamental principles for managing potentially hazardous materials in a “cradle-to-cradle” (life-cycle, circular economy) approach; and baseline institutional and procedural provisions (Kummer Peiry 2014).

The fundamental principles of life-cycle management contained in the global framework agreement (see Figure 4 above) could be derived from existing treaties so that they are already widely recognised and suitable to be elevated to the level of

universal application.<sup>74</sup> In addition, clear obligations and provisions to assist countries with implementation will be essential (Tuncak and Ditz 2013).

Figure 5: Scope of a New Global Framework Agreement



The substantive aspects of the protocols, guidelines, or standards could be similar to measures deployed in existing international and regional chemicals and waste regimes. Perrez and Karlaganis (2012) note that while the international legal regime for chemicals and waste is highly fragmented, there is a general range of measures, categorizations of substance types, and points of regulatory focus that can be identified (Perres and Karlaganis 2012).

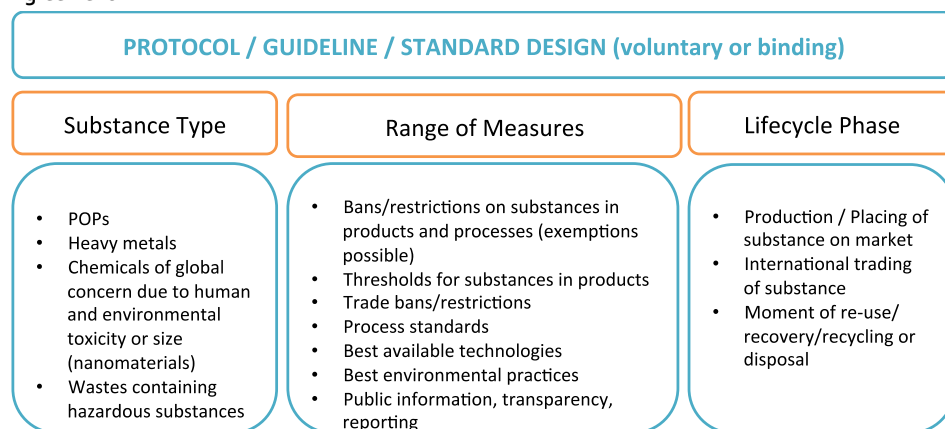
The types of measures used in the regulation of chemicals and waste include bans, thresholds for substances, trade restrictions, process standards, best available technologies and best environmental practices, public information, transparency, and reporting requirements. Substances that are targeted include POPs, heavy metals, chemicals of global concern due to size (such as nanomaterials) or due to human or environmental toxicity, and waste that contains hazardous substances.

<sup>74</sup> For potential provisions of a framework treaty, see Kummer Peiry 2014 & Tuncak and Ditz 2013.

Moreover, regulatory measures typically apply to specific life-cycle phases, such as when substances are introduced on the market, or when they are internationally traded or disposed.

These substance types, related measures, and life-cycle points of concern could be used to inform prospective protocols, guidelines, or standards attached to a global framework agreement. By adopting a protocol (binding commitment), or an international standard or guideline (voluntary guidance), states would effectively commit to enacting regulation based on the fundamental principles of SMCW embodied in the global framework agreement and as elaborated in the relevant complementary instrument.

Figure 6: Proposed content of protocols, guidelines, or standards to accompany the Global Framework Agreement



According to Kummer-Peiry (2014), a global framework treaty should essentially be aimed at the sustainable management of potentially hazardous *materials* (Kummer Peiry 2014). The change in terminology from “chemicals and waste” to “hazardous materials” is intended to extend regulatory coverage to products or substances that would normally evade qualification as chemicals or waste, such as electrical and electronic equipment (EEE). The proposed agreement could build on the existing BRS and Minamata Conventions, as well as the SAICM, incorporating their respective advantages. The advantage of a framework agreement is that it would have a legally binding dimension, as well as the institutional framework and predictable financing of the treaties on the one hand, and still share the comprehensive scope of SAICM on the other (Kummer Peiry 2014). Under such an approach, SAICM may continue to provide a non-binding, flexible mechanism for governments and other stakeholders to share knowledge and exchange information on technological and environmental

developments, with governments preserving a certain degree of regulatory autonomy on emerging and controversial issues.

A different option would be to create a regime in which the existing agreements comprising the chemicals and waste cluster are bundled as “related agreements”, as has been done with agreements under the World Trade Organization (Tuncak and Ditz 2013). Care should be taken to ensure coordination, coherence, and consistent application. In particular, this approach would require clarification of the overarching guiding principles upon which human health and environmental protection measures would be based, and furthermore, it would be necessary to understand whether these principles would be similarly interpreted in the context of all related agreements. While this regime structure may be appropriate in the context of the WTO, which spans diverse and distant commercial areas from intellectual property to phytosanitary measures, it does not seem to fit chemicals management.

When developing the form that a global agreement on chemicals could take, there are several existing models that could be studied and taken as examples. Besides the above-mentioned WTO treaty system, the Antarctic Conventions could provide a model to be applied.<sup>75</sup> The Antarctic treaty system includes a main agreement and a protocol, as well as two related agreements. Another potential model is the Convention on Long-range Transboundary Air Pollution (CLRTAP) (Kummer Peiry 2014). The CLRTAP was concluded in 1979 by UNECE member states to reduce and prevent regional air pollution. Since then, it has been extended by eight protocols, seven of which contain legally binding targets for emissions reductions for specific substances or groups of substances. While earlier Protocols provided the same emission reduction obligations for all Parties, the 1994 Oslo Protocol on sulphur emissions introduced the “critical loads approach”, which takes into account country-specific ecosystem considerations in setting emissions ceilings and is thus better aligned with the polluter pays principle.

One of the potential difficulties regarding a global agreement and protocols approach is the time that would be required first to negotiate the framework agreement, and then to negotiate, adopt, and implement individual protocols. For this reason, the present study proposes (above) an alternative model, consisting of a global framework agreement enhanced by voluntary international standards or technical guidelines (instead of protocols) to guide legislative development at the national level. While voluntary guidelines are evidently not as binding as the protocol

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<sup>75</sup> Besides the Antarctic Treaty itself, the treaty regime includes the Protocol on Environmental Protection to the Antarctic Treaty, the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR), and the Convention for the Conservation of Antarctic Seals (CCAS).

approach, they might offer states a higher degree of flexibility and thus draw more ratifications of the global framework agreement.

The codification of an international law of chemicals and waste based on current international treaties and state practice is another possible approach to clarifying international rules that frame the global production, use, and circulation of hazardous chemicals and waste. For instance, the International Law Commission (ILC) has recently taken up a project to map out a set of international legal principles and rules on the atmosphere, based on current state practices in atmospheric protection (ILC 2013). Applied to chemicals and waste, this endeavour would be extremely difficult however, considering the vast differences between the ways in which states define and regulate chemicals and waste. Moreover, the process of codification of international rules pertaining to the protection of the atmosphere reveals that important substances may be left out of the scope of analysis, depending on how the issue area is framed. In its codification work related to atmospheric pollution, the ILC decided not to address black carbon and other substances that have a “dual-impact” – meaning an effect on both air pollution and climate change – thus leaving unaddressed a range of emissions and substances that pose a severe risk to human health and the environment (ILC 2013). As such, the ILC’s legal analysis does not consider black carbon to be a contributing factor to air pollution. Given the possibility of such definitional constraints, it is uncertain whether the codification of international rules on chemicals and waste could address chemical and waste pollution in its fullest sense.

While the adoption of a global agreement on chemicals and waste can be seen as the preferred approach from a human and environmental health perspective, it can be expected to be met with resistance. Arguments that could be presented include that a new global agreement would be a new contribution to treaty congestion at the international level, and would lead to lowest common denominator standards and to the proliferation of financial pledges. Furthermore, the negotiations towards a new agreement could be very complex, costly, and time-consuming. Finally, the existence of a new agreement is not a guarantee of effectiveness. At the same time, inconsistencies and gaps in the existing international treaties are well understood. These inconsistencies are exploited by certain stakeholders, as evidenced by illegal chemicals trafficking, unregulated and hazardous chemical use, and environmentally destructive waste disposal. The failure of our international legal framework to effectively regulate the circulation of chemicals and waste around the globe ultimately affects the enjoyment of human rights, in particular, in developing countries where chemicals manufacturing is booming, along with the associated ecosystem and human health risks. The international legal framework pertaining to

chemicals and waste cannot be considered a finished process unless the current regulatory lapses are addressed. Since addressing one chemical substance at a time, one treaty at a time, is clearly not a desirable option, given the number of chemicals and the development of new chemicals, the most effective approach could lie in the negotiation of a dynamic global framework agreement, as elaborated above.



## Conclusions

The production and use of chemicals has grown exponentially from the 1970s to today. At the same time, the negative impacts of hazardous chemicals and waste on human health, the environment, and economic and social life have multiplied as well. Today, the growth in chemicals consumption is mainly occurring in developing countries, which creates new challenges from an international regulatory perspective.

The current state of global chemicals regulation is characterized first and foremost by fragmentation. Separate instruments have been developed in response to specific challenges. The resulting international governance framework for the protection of the environment and human health from chemical hazards is narrow in its regulatory reach. The BRS synergies process mainly benefits areas where the separate treaties overlap or complement each other. Within this context, SAICM has been a welcomed broader framework, even though legally non-binding, for global cooperation in the sound management of chemicals.

Since its adoption in 2006, SAICM has brought global awareness to the risks posed by hazardous chemicals and has engaged a wide scope of global stakeholders in all aspects of chemicals management. Most importantly, SAICM has assisted many developing countries in strengthening their regulatory frameworks for the sound management of hazardous chemicals. The initiative has addressed chemicals policy from a comprehensive and cross-sectoral perspective, promoted the adoption of life-cycle approaches, and emphasized the importance of far-reaching stakeholder participation at all stages of policy-making. Even though SAICM has remained a legally non-binding instrument, it has provided strong policy guidance in areas that are beyond the scope of current MEAs. SAICM can be viewed as an essential and unique vehicle for cooperative work towards the sound management of chemicals globally. SAICM is not only an abstract strategic programme, but it has adopted a detailed implementation plan and is capable of addressing new policy issues.

SAICM has many strengths and recognized achievements, but the current international policy framework for the sustainable management of chemicals and waste, including SAICM, also has gaps and areas that are in need of improvement. Information management is an area on which the future regime will have to specifically concentrate. A related matter is the development of effective indicators for measuring the level of implementation of the post-2020 instrument. The

science-policy interface within international chemicals and waste regulation should be enhanced. Many international scientific panels exist, aiming to cover the sound management of chemicals and waste. While the scientific basis is multifold, it is not translating effectively into policy action. The added-value of establishing any new panel should be to include an intergovernmental component/segment to ensure policy uptake of scientific findings. Capacity-building and funding for chemicals and waste is currently spread over too many different institutions, and the level of funding provided has been by far inadequate. Political visibility has been inadequate, including a lack of awareness regarding the widespread role of chemicals and waste in achieving sustainable development overall. Now that the 2020 deadline is approaching and the 2030 Agenda for Sustainable Development has been launched, accompanied by the SDGs, there should be a need to increase political awareness and international funding for chemicals and waste.

The SAICM expiration date of 2020 is approaching. Besides taking stock of the achievements, policy-makers need to look towards the future: the post-2020 regime on sound management of chemicals and waste, taking into account the recent adoption of Agenda 2030. In this regard, this study recommends that the Post-2020 Framework be explicitly aligned with the 2030 Agenda. The new regime would preferably maintain the strengths of the current SAICM framework and respond to the identified challenges, and in particular, the need for strategic oversight. As a starting point, the global criteria for SMCW that are consolidated in the SAICM Overall Orientation and Guidance for Achieving the 2020 Goal document should provide the fundamental basis of the post-2020 regime. Furthermore, in the course of designing the elements of the post-2020 regime, lessons and good practices from other international environmental regimes and institutions, such as the ozone and biological diversity regimes and the Arctic Council, could be sought and followed when deemed useful and practicable.

As regards the institutional form of the post-2020 instrument, several options for reform are possible, reflecting varying levels of ambition and preferences. The outcome could be drafted into a declaration, joint statement, or agreement with either voluntary or binding effect. Following recent trends in international environmental law, soft law instruments with legally binding elements, or vice versa, have been the path chosen. In any case, any new instrument should re-affirm the central importance of SMCW to the realization of Agenda 2030. In essence, protection from chemical and waste pollution is a human right and should be approached as such within the new regime. As a minimum, the Post-2020 Framework should result in enhanced commitments to transparency, public access to information and accountability in the life-cycle management of chemicals and

waste, scientific knowledge-generation, and the implementation of existing conventions, the GHS and SAICM OOG. At a higher level of ambition, the 2020 deadline could signal the beginning of a comprehensive new international framework treaty on the life-cycle of all chemicals and waste in global circulation.

On the side of voluntary approaches to the Post-2020 Framework on the sound management of chemicals and waste, this study first presents the incremental improvements framework approach based on SAICM ("Beyond 2020"). Under this approach, SAICM would continue in the form of a legally non-binding instrument, playing a supportive role to governments in their implementation of the 2030 Agenda and the international legal regime on chemicals and waste.

An alternative voluntary approach is the National Action Plan Mechanism. Accordingly, stakeholders would essentially agree to implement progressive SMCW measures and to report them periodically. This would be followed by a collective progress evaluation and recommendations by an independent body. Actors would be committed to scaling up initial measures periodically.

Whichever voluntary approach is chosen, there is a need to develop a Declaration that is stronger than the Dubai Declaration and grounded in the 2030 Agenda.

Overall, the benefit of voluntary approaches is that they incite greater participation in a shorter time-frame, can cover a broader range of issues, and can include provisions that are more precise and demanding than those found in international legally binding instruments. Nevertheless, legally binding regulation in the chemicals and waste arena could fill the gaps in the current international regulatory framework and result in enhanced effectiveness.

The adoption of a framework agreement (a global treaty approach) would introduce a cohesive force in the currently fragmented landscape of chemicals and waste governance. Many problems related to the proliferation of chemicals and waste in the environment, and toxic exposure in human communities, remain unaddressed and new challenges are destined to rise. The framework agreement would embody fundamental SMCW principles and would be complemented by either (a) international standards, (b) voluntary guidelines, or (c) protocols for different (groups of) chemical substances. The negotiation of a new global framework agreement on chemicals and waste might not require as long a time horizon as the Minamata Convention, particularly if the prospective instrument is structured with the same flexibility and bottom-up approach as the Paris Agreement. The new framework agreement would essentially encompass a set of basic principles applicable to all SMCW, combined with a series of guidelines, standards, or protocols that contain specific measures targeting different clusters of substances at critical moments in their life-cycle.

The failure of our international legal framework to effectively regulate the circulation of chemicals and waste around the globe ultimately effects the enjoyment of human rights, in particular in developing countries. This is a significant aspect that would support the option of a legally binding framework agreement on sustainable management of chemicals and waste.

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## Svensk Resumé

Produktionen och användningen av kemikalier har ökat exponentiellt från 1970-talet till i dag. Samtidigt har även den negativa påverkan av farliga kemikalier och avfall på människors hälsa, miljön samt det ekonomiska och sociala livet mångdubblats, trots de åtgärder som vidtagits för att förbättra kemikaliesäkerheten.

Det aktuella läget för den globala förvaltningen av kemikalier och avfall kännetecknas först och främst av splittring. Separata instrument har utvecklats som svar på särskilda utmaningar som har uppstått. Den internationella ram för förvaltning som har framkommit för att skydda miljön och människors hälsa från kemiska faror och avfall har en begränsad räckvidd sett till lagstiftningen. I detta sammanhang har strategin för internationell kemikaliehantering (SAICM) välkomnat en bredare ram för ett globalt samarbete för en sund kemikalie- och avfallshantering (SMCW), även om den inte är rättsligt bindande.

I föreliggande undersökningsrapport beskrivs den nuvarande situationen för kemikalie- och avfallshantering på global nivå, med fokus på miljöaspekter och även med hänsyn till ekonomiska och mänskliga hälsoeffekter. Rapporten lyfter fram betydelsen av livscykelänkande för en sund hantering av alla kemikalier och restprodukter samt av att uttryckligen anpassa ramen för en sund kemikalie- och avfallshantering för perioden efter 2020 till 2030-agendan.

Genom en analys av SAICM:s viktigaste funktioner fastställer rapporten brister och styrkor med den nuvarande internationella ramen för kemikalie- och avfallshantering. För att åtgärda brister och ytterligare förbättra de starka sidor som redan finns ger undersökningen rekommendationer för stegvisa förbättringar av funktionerna – också med hjälp av framträdande fakta från andra internationella organ och processer.

I rapporten föreslås att ordningen efter 2020 bör ha en förenklad och begriplig uppbyggnad så att delarna inom god förvaltning kan förverkligas fullt ut. Dessutom bör en starkare koppling skapas mellan kemikalier och avfall och socioekonomiska frågor, inklusive mänskliga rättigheter och hälsa för utsatta befolkningsgrupper, såsom barn.

En av de stora styrkorna med SAICM har varit att strategin har engagerat regeringar och andra intressenter som jämlika partner i sitt arbete. Ramen för perioden efter 2020 bör fortsätta SAICM:s flerpartsstrategi och sammanföra

mellanstatliga och icke-statliga organisationer och kemiska industriorganisationer. Den privata sektorns deltagande skulle kunna vidgas till att även inkludera industriella nedströmsanvändare av kemikalier eller deras organisationer, med tanke på den ökande volymen och användningen av kemikalier i praktiskt taget alla ekonomiska sektorer.

Undersökningen betonar att effektiv informationshantering spelar en viktig roll och bör säkerställa enkel tillgång till information för att vidta de åtgärder som krävs för att uppnå en sund kemikalie- och avfallshantering. Därutöver bör kemikalietillverkarnas ansvar stärkas för att ge tillräcklig hälso- och säkerhetsinformation om alla kemikalier som släpps ut på marknaden, och för att säkerställa åtkomst till denna information i hela världen. För detta ändamål bör SAICM:s avvecklingssystem förbättras och utrustas med tillräckliga resurser och ett tydligt mandat.

Ramen för perioden efter 2020 som följer efter SAICM kräver större strategisk politisk planering och tillsyn, bland annat en mekanism för att systematiskt bedöma framsteg och identifiera problem som uppstår, och uppmärksamma regeringarna på dessa. Befintliga vetenskapliga organ och bedömningar av kemikalier och avfall bör bli bättre kopplade till beslutsfattande inom SAICM och eventuella nya vetenskapliga paneler bör ta direkt kontakt med regeringarna för att inducera mer välgrundade beslut. Den aktuella indikationsramen enligt SAICM bör revideras med ett tydligare fokus på genomförande och utvärdering.

Det är allmänt erkänt att finansieringsnivån för kemikalie- och avfallshantering inte motsvarar aktuella behov. FN:s miljöprogramms nya särskilda program ter sig lovande, eftersom det kombinerar delar från Montrealprotokollets multilaterala fond och SAICM:s "quick start-paket", som syftar till att stärka den institutionella kapaciteten för en sund kemikalie- och avfallshantering i utvecklingsländerna på ett innovativt och holistiskt sätt. Förutom mellanstatliga mekanismer bör den privata sektorn få en mer framträdande roll när det gäller att göra kapacitetsuppbyggnaden effektivare.

Ramen efter 2020 bör utformas så att den drar full nytta av synergieffekter med BRS-konventionerna och Minamata konventionen i alla funktioner som omfattas. Detta skulle bidra till att förbättra enhetligheten hos klustren av kemikalier och avfall samt underlätta ett gemensamt genomförande på nationell nivå.

Efter analysen av funktionerna i ramen efter 2020 för sund kemikalie- och avfallshantering fastställer och diskuterar rapporten olika alternativ för den institutionella formen för ramen efter 2020. Alternativen är av varierande ambitionsnivå men syftar alla till att svara på de svagheter som fastställts bland funktionerna i den nuvarande internationella ramen för kemikalie- och



avfallshantering och på de förväntade trenderna inom global tillverkning, användning och påverkan av kemikalier.

Den frivilliga strategin SAICM har tillhandahållit en allomfattande och brett utformad mekanism för globalt samarbete. Men en viktig svaghet med SAICM är att strategin inte har fungerat tillräckligt strategiskt. I syfte att förverkliga en mer strategisk strategi bör det övergripande dokumentet för orientering och vägledning (OOG) genomföras korrekt. Med tanke på 2030-agendans höga politiska relevans och OOG:s avgörande bidrag till 2020-målet om samarbetsramen SMCW, blir dessa instrument grundläggande vägledning till de institutionella förslag som utarbetats inom ramen för rapporten.

De föreslagna reformalternativen omfattar en rad val när det gäller instrument (icke-rättsliga och rättsliga), vilka speglar olika ambitionsnivåer. På en väldigt grundläggande nivå kommer SAICM-intressenter att behöva förnya relevansen för genomförandeplanen från Johannesburg efter 2020. I detta avseende måste varje ny deklaration, ram eller nytt avtal bekräfta att SMCW har central betydelse för förverkligandet av 2030-agendan, i synnerhet målen 3.9, 6.3, 12.4, 12.5 och 14.1. Samtliga mål för hållbar utveckling behandlar kemikalier och avfall på ett eller annat sätt – eftersom de påverkar nästan alla aspekter av utveckling – vilket kräver att effektiva kopplingar görs till ett brett spektrum av mål för hållbar utveckling.

På en högre ambitionsnivå kan det deltagande ICCM vara värd för antagandet av ett nytt transnationellt eller internationellt avtal som riktar sig till ett stort och växande antal farliga kemikalier och avfall. Enligt ett scenario med en förbättrad frivillig strategi (i rapporten kallad "Efter 2020"), skulle SAICM fortsätta i form av ett icke-bindande instrument och spela en stödjande roll för regeringarna i deras genomförande av 2030-agendan och den internationella rättsliga ordningen för kemikalier och avfall.

Ett annat scenario enligt den frivilliga strategin kan ta formen av ett åtagande att vidta förbättrade åtgärder om SMCW nationellt, i en rad särskilt framförhandlade frågor (t.ex. 11 delar av OOG). Offentliga aktörer skulle i huvudsak enas om att genomföra progressiva åtgärder för en sund kemikalie- och avfallshantering och regelbundet rapportera dem till ett organ som ICCM. En kollektiv utvecklingsbedömning gjord av ett oberoende expertorgan skulle undersöka nationella handlingsplaner och rekommendationer och därmed möjliggöra en periodisk inventering av framstegen. Antagandet av denna typ av oberoende iterativ översynsmekanism skulle främja ett aktivt genomförande bland regeringar och uppmuntra en systematisk utvärdering av de rättsliga insatserna samtidigt som strategins dynamiska, flexibla och frivilliga karaktär bevaras.

Antagandet av ett ramavtal om kemikalier och avfall skulle vara en progressiv utveckling som innebär ett skifte bort från trenden med splittrad miljöstyrning. Ramavtalet skulle omfatta grundläggande SMCW-principer och kompletteras med antingen a) internationella standarder, (b) frivilliga riktlinjer eller (c) protokoll för olika (grupper av) kemiska ämnen.

Enligt ett scenario kan de viktigaste delarna i SAICM även integreras som SAICM-protokollet till det nya ramavtalet. I samma anda har det föreslagits att BRS-konventionerna integreras som protokoll till en global kemikalie- och avfallskonvention. Detta skulle innebära goda möjligheter att fortsätta ansträngningarna mot den konsolidering av delar som behövs för att ytterligare maximera synergier mellan de befintliga kemikalie- och avfallsfördragen.

## References

- Attina, T. M. & Trasande, L. 2013. Economic costs of childhood lead exposure in low- and middle-income countries. *Environmental Health Perspectives* 121: 1097–1102. <https://doi.org/10.1289/ehp.1206424>
- Biedenkopf, K. 2015. EU Chemicals Regulation: Extending Its Experimentalist REACH. In: *Extending Experimentalist Governance?* Jonathan Zeitlin (ed.). Oxford University Press. p. 107–136. <https://doi.org/10.1093/acprof:oso/9780198724506.003.0005>
- Blair, A., Ritz, B., Wesseling, C. & Freeman, L. B. 2016. Pesticides and Human Health. *Occupational & Environmental Medicine* 72: 81–82. <https://doi.org/10.1136/oemed-2014-102454>
- Bodansky, D. 2015. *Reflections on the Paris Conference*, Opinio Juris, 15 December 2015.
- Bodansky, D. 2016. The Legal Character of the Paris Agreement. *Review of European, Comparative and International Environmental Law* 25: 142–150. <https://doi.org/10.1111/reel.12154>
- Caterbow, A. & Hausmann, J. 2016. *Women and Chemicals. The impact of hazardous chemicals on women. A thought starter based on an experts' workshop*. Women in Europe for a Common Future (WECF) and Women International for a common Future (WICF).
- ChemicalWatch 2012. *UNEP: SAICM and the case for sound chemicals management*. (Feb. 2012)
- DeBurca, G. O., Keohane, R. O. & Sabel, C. F. 2014. Global Experimentalist Governance. *British Journal of Political Science* 44: 477–486. <https://doi.org/10.1017/S0007123414000076>
- Ditz, D. & Tuncak, B. 2014. Bridging the Divide between Toxic Risks and Global Chemicals Governance. *RECIEL* 12: 181–194. <https://doi.org/10.1111/reel.12082>
- EC 2015. *Closing the Loop – An EU action plan for the Circular Economy*. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. COM(2015) 614 final.
- ECHA 2009. Wallström open ECHA's Conference Centre and call for a UN chemicals panel. European Chemicals Agency. ECHA/PR/09/04.
- Eco-Accord Centre 2012. SAICM regional hub implementation report.
- EMG 2015. United Nations and Sound Chemicals Management: Coordinating delivery for member states and sustainable development, a synthesis report.
- EMG 2016. System-wide Framework on Strategies on the Environment for the UN System.
- Euler Hermes Economic Research 2016. Global Sector Report. Chemicals.
- FAO 2014. Addressing Highly Hazardous Pesticides – possible next steps for SAICM.
- GEF 2014. GEF-6 Programming Directions.
- Guney, M. & Zagury, G. J. 2013. Contamination by ten harmful elements in toys and children's jewelry bought on the North American market. *Environmental Science & Technology* 47: 5921–5930. <https://doi.org/10.1021/es304969n>
- Heiskanen, E. 2000 The Institutional Logic of Life Cycle Thinking. *Journal of Cleaner Production* 10: 427–437. [https://doi.org/10.1016/S0959-6526\(02\)00014-8](https://doi.org/10.1016/S0959-6526(02)00014-8)

- ICCA 2009. Global Chemical Industry Capacity Building.
- ILC 2013. Report of the Commission to the General Assembly on the Work of its 65th Session. A/68/10.
- IOMC 2015. Activities of the IOMC to support SAICM Implementation.
- IPBES 2016. The assessment report on pollinators, pollination and food production. Summary for policy-makers.
- IPEN 2015. Thought starter: International cooperation on chemical safety beyond 2020.
- Kankaanpää, P. & Young, O. R. 2012. The effectiveness of the Arctic Council. *Polar Research* 31: 1–14. <https://doi.org/10.3402/polar.v31i0.17176>
- Khan, S. A. 2016. E-products, E-waste and the Basel Convention: Regulatory challenges and impossibilities of international environmental law. *RECIEL* 25: 248–260. <https://doi.org/10.1111/reel.12163>
- Kumar, S., Kaushik, G. & Villarreal-Chiu, J.-F. 2016. Scenario of organophosphate pollution and toxicity in India: A review. *Environmental Science and Pollution Research* 23: 9480–9491. <https://doi.org/10.1007/s11356-016-6294-0>
- Kummer Peiry, K. 2014. The Chemicals and Waste Regime as a Basis for a Comprehensive International Framework on Sustainable Management of Potentially Hazardous Materials? *RECIEL* 23: 172–181. <https://doi.org/10.1111/reel.12084>
- Lindhqvist, T. 1992. Extended Producer Responsibility. In: *Extended Producer Responsibility as a Strategy to Promote Cleaner Products*. Thomas Lindhqvist (ed.). Lund University.
- Matus, K. J. M., Clark, W.C., Anastas, P. T. & Zimmerman, J. B. 2012. Barriers to the Implementation of Green Chemistry in the United States. *Environmental Science & Technology* 46: 10892–10899. <https://doi.org/10.1021/es3021777>
- MF 2016. *Report of the seventy-sixth meeting of the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol*. UNEP/OzL.Pro/ExCom/76/66
- Miller, M. & Batchelor, T. 2013. *Information Paper on Synergies Between the Montreal Protocol and Other International Agreements*. Touchdown Consulting. [http://ec.europa.eu/clima/policies/ozone/docs/synergies\\_en.pdf](http://ec.europa.eu/clima/policies/ozone/docs/synergies_en.pdf)
- OECD 2004. *Sustainable Chemistry*.
- OHCHR 2014. Statement of Mr. Baskut Tuncak, UN Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes, 2nd OEWG to SAICM.
- OHCHR 2015. Statement by the Special Rapporteur on hazardous substance and waste at the Fourth Session of the International Conference on Chemical Management.
- OLAF 2014. Substantial quantities of smuggled counterfeit pesticides seized in Poland thanks to information provided by OLAF Press release No 13/2014. European Anti-Fraud Office.
- Ozone Secretariat 2016a. Briefing Note on Legal Aspects in the context of HFC Management under the Montreal Protocol.
- Ozone Secretariat 2016b. Ozone and climate: restored by a world united.
- Perres, F. & Karlaganis, G. 2012. Emerging Issues in Global Chemicals Policy. In: *Chemicals, Environment, Health: A Global Management Perspective*. Wexler, P., van der Kolk, J., Mohapatra, A. & Agarwal, R. (eds). Taylor & Francis.
- Perrez, F. X. 2006. The Strategic Approach to International Chemicals Management: Lost Opportunity or Foundation for a Brave New World? *RECIEL* 15: 245–257. <https://doi.org/10.1111/j.1467-9388.2006.00528.x>

- POPs 2013. Guidance and consolidated additional guidance to the financial Mechanism. Annex to decision SC-1/9.
- Puype, F., Samsonek, J., Knoop, J., Egelkraut-Holtus, M. & Ortlieb, M. 2015. Evidence of waste electrical and electronic equipment (WEEE) relevant substances in polymeric food-contact articles sold on the European market. *Food Additives & Contaminants Part A, Chemistry, Analysis, Control, Exposure & Risk Assessment* 32: 410–426.  
<https://doi.org/10.1080/19440049.2015.1009499>
- RFI 2008. Mainstreaming the Sound Management of Chemicals into Development Planning: Background and Rationale. Resource Futures International.
- SAICM 2009. Background information in relation to the emerging policy issue of electronic waste. SAICM/ICCM.2/INF/36
- SAICM 2012a. Performance of information clearinghouse functions by the secretariat for the Strategic Approach to International Chemicals Management. SAICM/ICCM.3/INF/28
- SAICM 2012b. Proposal by the Executive Director of the United Nations Environment Programme on chemicals and wastes financing. SAICM/ICCM.3/12
- SAICM 2014a. Report of the International Conference on Chemicals Management on the work of its third session. SAICM/ICCM.3/24
- SAICM 2014b. United Nations system-wide support in achieving the sound management of chemicals and wastes. SAICM/OEWG.2/INF/22
- SAICM 2014c. Report of the fifth African regional meeting on the Strategic Approach to International Chemicals Management. SAICM/RM/Afr.5/7
- SAICM 2014d. Report on cooperation and coordination between the Secretariat of the Basel, Rotterdam and Stockholm conventions and the Chemicals Branch of the United Nations Environment Programme. Note by the secretariat. SAICM/OEWG.2/INF/8.
- SAICM 2015a. Guidance for stakeholders on exchanging chemicals in products information. SAICM/ICCM.4/11
- SAICM 2015b. Report by the World Health Organization on the engagement of the health sector in the Strategic Approach to International Chemicals Management. SAICM/ICCM.4/INF/3
- SAICM 2015c. Report of the International Conference on Chemicals Management on the work of its fourth session. SAICM/ICCM.4/15
- SAICM 2015d. Analysis by the Inter-Organization Programme for the Sound Management of Chemicals of the Global Plan of Action and proposal for simple indicators of progress. SAICM/ICCM.4/INF/7
- SAICM 2015e. Update from the Global Environment Facility. SAICM/ICCM.4/INF/8
- SAICM 2015f. Strategic Approach to Chemicals Management. Good Chemistry Together.
- SAICM 2015g. Impact Evaluation of SAICM. SAICM/ICCM.4/INF/5
- SAICM 2015h. Sound management of chemicals and waste in the context of the sustainable development goals. SAICM/ICCM.4/5
- SAICM 2015i. UNEP series of case studies on mainstreaming SMC. SAICM/ICCM.4/INF/12
- SAICM 2015j. United Nations system-wide contribution to achieving the sound management of chemicals and waste. SAICM/ICCM.4/INF/6
- SAICM 2015k. Cooperation and coordination between the secretariats of the Basel, Rotterdam and Stockholm conventions and the Strategic Approach. Note by the secretariat. SAICM/ICCM.4/INF/24.

- SAICM 2016a. Report of the Fourth Session of the International Conference on Chemicals Management. SAICM/ICCM.5/Bureau.1/INF/2
- SAICM 2016b. Development of project document- SAICM 2016-2020. SAICM/ICCM.5/Bureau.1/6
- Selin, H. 2010. Global Governance of Hazardous Chemicals. Challenges in Multilevel Management. MIT Press.
- Senuagwa, J. & Persson, L. 2014. *How Far to the 2020 Goal? The Strategic Approach to International Chemicals Management in Tanzania*. Stockholm Environment Institute.
- Terekhova, T., Vickers, C. & Koekkoek, B. 2016. *Indicators of progress and monitoring. Integrated National Implementation of SDGs and International Chemicals and Waste Agreements*. International Expert and Stakeholder Workshop.
- Tuncak, B. & Ditz, D. 2013. *Paths to Global Chemicals Safety: The 2020 Goal and Beyond*. CIEL.
- UN 2015. Globally Harmonized System of Classification and Labelling of Chemicals (GHS). Sixth Revised Edition. ST/SG/AC.10/30/Rev.6
- UNDP 2011. Chemicals and Gender. United Nations Development Programme.
- UNEA 2014. Chemicals and waste. Resolution 1/5.
- UNEP & Interpol 2016. The Rise of Environmental Crime. A Growing Threat to Natural Resources, Peace, Development and Security. A UNEP-Interpol rapid response assessment
- UNEP 2010. Enhancing cooperation and coordination within the chemicals and wastes cluster. Report of the Executive Director. UNEP/GC.26/16.
- UNEP 2011. An analysis of economic instruments in sound management of chemicals.
- UNEP 2012a. The Global Chemicals Outlook (GCO). United Nations Environment Programme.
- UNEP 2012b. The Global Environmental Outlook (GEO5): Environment for the Future We Want. United Nations Environment Programme.
- UNEP 2012c. Outcome document of the consultative process on financing options for chemicals and wastes. UNEP/GCSS.XII/INF/7
- UNEP 2015a. Implementation of resolutions adopted by the United Nations Environment Assembly at its first session. Addendum. Resolution 1/5: chemicals and waste. Report of the Executive Director. UNEP/EA.2/6/Add.3.
- UNEP 2015b. Report of the meeting of senior government officials expert in environmental law on the midterm review of the fourth Programme for the Development and Periodic Review of Environmental Law. UNEP/Env.Law/MTV4/MR/1/5
- UNEP 2016. Healthy Environment, Healthy People.
- UNEP 2016. Report on the implementation of the integrated approach to financing sound management of chemicals and waste. UNEP/EA.2/INF/18
- UNEP, BRS & GHP 2015. Pollution is the Largest Cause of Death in the World. UNEP-SDG Fact Sheet.
- UNEP, BRS, SAICM, IOMC & Unitar 2016. Integrated National implementation of SDGs and international Chemicals and Waste Agreements; International Expert and Stakeholder Workshop, Geneva, Switzerland, 11-13 April 2016, Compilation of Participants' Observations, Messages and Insights.
- UNFCCC 2014. Summary and recommendations by the Standing Committee on Finance on the 2014 biennial assessment and overview of the climate finance flows.

- Weidenhamer, J. & Clement. M. L. 2007. Widespread lead contamination of imported low-cost jewelry in the US. *Chemosphere* 67:961–965.  
<https://doi.org/10.1016/j.chemosphere.2006.10.071>
- WHO 2010. Strategic Approach to International Chemicals Management. WHO A63/21.
- WHO 2016. The Public Health Impact of Chemicals: Knowns and Unknowns.
- WMO 2014. *Scientific Assessment of Ozone Depletion: 2014*. World Meteorological Organization Global Ozone Research and Monitoring Project Report No. 55.
- World Economic Forum 2011. *Global Risks 2011, Sixth edition, An initiative of the risk Response Network*.



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## Chemicals and Waste Governance Beyond 2020

The Strategic Approach to International Chemicals Management (SAICM) was established a decade ago as a voluntary approach to complement regulatory gaps to achieve sound management of chemicals by 2020. Despite significant actions taken since then, chemicals still pose a grave risk through the pollution of air, water, soil, and food, especially in developing countries.

In 2015, an international process was set in motion to design a new global framework for sound management of chemicals and wastes. The new framework will replace SAICM and it is envisaged to be adopted at the fifth International Conference on Chemicals Management to be organised in 2020.

This report is the first attempt to analyse functions needed for effective chemicals and waste governance and to identify options for the institutional form in the post-2020 era. The report aims to increase understanding of reforms required to protect human health and the environment from hazardous chemicals and wastes, in light of the 2030 Agenda on Sustainable Development.



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