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Sustainability in international chemicals management – Further development of the Rio process post 2020

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Abstract: Sustainability in international chemicals management – Further development of the Rio process post 2020

The Strategic Approach to International Chemicals Management (SAICM) is a voluntary global policy framework for chemical safety. It was established by the first session of the International Conference on Chemicals Management (ICCM) in Dubai in 2006. Its overall objective is to achieve the goal 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.” SAICM is unique in its ambitious 2020 goal, overarching scope and multisectoral and multi-stakeholder approach. It is an important milestone on the pathway to sustainable development. However, as 2020 is drawing closer, the need to start considering preparations for the period beyond 2020 became apparent. This opened a window of opportunity to assess successes and identify gaps in achieving the 2020 goal, and to think about possible reforms for the post 2020 period.

At the fourth session of the ICCM in 2015, an intersessional process was established to develop recommendations for SAICM and the sound management of chemicals and waste (SMCW) beyond 2020. In addition, an independent evaluation was mandated to assess SAICM between 2006 and 2015. The intersessional process is open to all stakeholders, includes up to four meetings until 2020 and is facilitated by two co-chairs from Canada and Brazil. It should develop measurable objectives in support of the 2030 Agenda for Sustainable Development. A decision on the beyond 2020 framework will be taken by ICCM5 in October 2020.

The overall objective of the research project is to develop proposals for and contribute to the intersessional process on a beyond 2020 framework. To achieve this, the project team organized six European and national workshops, bringing together governments and stakeholders from civil society, academia, and the private sector. Through a series of interviews, perspectives of various stakeholders on the future framework were collected. The project started in May 2015 with an overall duration of 36 months. A follow-up project started in June 2017.

This report outlines key elements for an enhanced policy framework on the sound management of chemicals and waste beyond 2020, based on an analysis of the strengths and weaknesses of SAICM as well as the opportunities for and threats to the reform of the Strategic Approach. It focuses on the vision, principles, scope, governance, strategic objectives and measurable targets, review and follow-up, financing and implementation of a beyond 2020 framework.

The report presents proposals for reform, including for an enhanced International Conference on Chemicals Management, for more effective activities on emerging policy issues, and for an improved science-policy interface. However, any reform must find the support of SAICM stakeholders. It is thus essential to foster political exchange around core ideas in order to garner support and find agreement around refined and ultimately acceptable solutions. In the conclusion, it is therefore recommended to increase efforts for coalition-building around progressive reform proposals through bilateral and multilateral exchanges, including at the remaining meetings of the intersessional process, at regional meetings as well as in informal workshops.

Kurzbeschreibung: SAICM und das internationale Chemikalien- und Abfall-Management nach 2020

Der Strategische Ansatz zum Internationalen Chemikalienmanagement (SAICM) ist ein globales freiwilliges Rahmenwerk zur Chemikaliensicherheit, das 2006 beim ersten Treffen der internationalen Konferenz zum Chemikalienmanagement (ICCM) in Dubai gegründet wurde. Sein übergeordnetes Ziel ist, dass Chemikalien bis zum Jahr 2020 „so produziert werden, dass signifikante negative Effekte auf die menschliche Gesundheit und Umwelt minimiert werden“. SAICM ist in seinem ambitionierten Ziel, seinem umfassenden Wirkungsbereich und seinem multisektoralen und multi-Stakeholder Ansatz einzigartig und ein wichtiger Meilenstein auf dem

Weg zur nachhaltigen Entwicklung. Nichtsdestotrotz wurde im Hinblick auf das näher rückende Ziel-Jahr 2020 die Dringlichkeit deutlich, Vorbereitungen für die Zeit nach 2020 zu treffen. Dadurch öffnete sich die Gelegenheit den Erfolg sowie die Lücken zum Erreichen des 2020-Ziels genauer unter die Lupe zu nehmen und über mögliche Reformen für die Zeit nach 2020 nachzudenken.

Beim vierten Treffen der ICCM im Jahr 2015 wurde ein sog. intersessionaler Prozess ins Leben gerufen, um Empfehlungen für SAICM und das Chemikalien- und Abfallmanagement (*sound management of chemicals and waste, SMCW*) über das Jahr 2020 hinaus zu entwickeln. Zusätzlich wurde eine unabhängige Evaluierung in Auftrag gegeben, um die Wirksamkeit von SAICM in den Jahren von 2006 bis 2015 zu beurteilen. Der intersessionale Prozess besteht aus bis zu vier Treffen bis zum Jahr 2020, ist für alle Stakeholder offen und wird durch zwei Mitvorsitzende (*Co-Chairs*) aus Kanada und Brasilien unterstützt. Ziel ist es unter anderem, messbare Ziele zur Unterstützung der Agenda 2030 für nachhaltige Entwicklung zu entwickeln. Eine finale Entscheidung zum sog. *beyond 2020 Framework* wird auf der ICCM 5 im Oktober 2020 fallen.

Das übergeordnete Ziel des Forschungsvorhabens ist es, Vorschläge für den intersessionalen Prozess und das *beyond 2020 Framework* zu entwickeln und zu beidem beizutragen. Hierzu hat das Projektteam sechs europäische und nationale Workshops organisiert und ausgerichtet, die Regierungsvertreter und Stakeholder aus der Zivilgesellschaft, der Wissenschaft und dem Privatsektor zusammengebracht haben. Die Perspektiven unterschiedlicher Stakeholder zum zukünftigen Rahmenwerk wurden darüber hinaus durch eine Interviewreihe zusammengetragen. Das Projekt begann im Mai 2015 und dauerte insgesamt 36 Monate. Ein Folgeprojekt begann im Juni 2017.

Dieser Bericht legt die Schlüsselemente für ein verbessertes politisches Rahmenwerk zum Chemikalien- und Abfallmanagement dar, die auf einer Analyse der Stärken und Schwächen von SAICM sowie Möglichkeiten und Risiken zur Reform des Strategischen Ansatzes basieren. Er konzentriert sich dabei auf die Vision, die Prinzipien, den Wirkungsbereich, die Steuerung (Governance), auf strategische Ziele und messbare Unterziele, auf den Prozess zur Überprüfung und Entwicklung von Folgemaßnahmen, die Finanzierung, sowie die Implementierung des *Beyond 2020 Framework*.

Ferner legt der Bericht Reformvorschläge vor, inklusive Vorschlägen zu einer erweiterten Internationalen Konferenz zum Chemikalienmanagement (ICCM), zu effektiveren Aktivitäten um neu auftretenden Politikproblemen (*emerging policy issues, EPIs*) zu begegnen und für eine verbesserte Schnittstelle zwischen Wissenschaft und Politik (*science-policy interface, SPI*). Dennoch muss jegliche Reform die Unterstützung der SAICM Stakeholder finden um erfolgreich zu sein und durchgesetzt zu werden. Es ist daher unabdingbar den politischen Austausch zu Kernideen zu fördern um breitere Unterstützung zu generieren und zu einer Einigung zu ausgearbeiteten und letztendlich akzeptablen Lösungen zu gelangen. Das Fazit des Berichts schlägt daher vor, die Anstrengungen zu erhöhen, die Koalitionsbildung zu progressiven Reformvorschlägen durch bilateralen und multilateralen Austausch voranzubringen. Hierzu sollten sowohl die verbleibenden Treffen im intersessionalen Prozess genutzt werden, als auch bei den regionalen Treffen und informellen Workshops.

Table of content

Table of content	7
List of figures	9
List of tables	9
List of abbreviations	10
Summary	12
Zusammenfassung.....	17
1 Introduction.....	22
1.1 The Strategic Approach to International Chemicals Management.....	26
1.2 The intersessional process on SAICM and the SMCW beyond 2020.....	32
2 SWOT analysis of the Strategic Approach	37
2.1 Strengths	37
2.2 Weaknesses.....	38
2.3 Opportunities	41
2.4 Threats.....	43
3 Enhancing global chemicals and waste governance: Elements of a new framework.....	46
3.1 Vision.....	47
3.2 Principles	49
3.3 Scope	50
3.4 Governance and institutional arrangements	51
3.4.1 A broader framework or SAICM 2.0	52
3.4.2 The International Conference on Chemicals Management.....	52
3.4.3 The Bureau and Secretariat	54
3.5 Strategic objectives and measurable targets	54
3.6 Emerging policy issues and national implementation.....	56
3.6.1 Emerging policy issues	56
3.6.2 National action plans	58
3.7 Science-policy interface.....	58
3.7.1 Models of science-policy interfaces and potential application for SMCW.....	59
3.7.2 An enhanced science-policy interface on chemicals	60
3.8 Review and follow-up.....	61
3.9 Financing and implementation	62
4 Conclusion	65
5 List of references	69

A Resolution IV/4: The Strategic Approach and sound management of chemicals and waste beyond 2020..... 74

List of figures

Figure 1:	Global chemical sales between 2000 – 2015, and expected sales in 2030; in billion €	22
Figure 2:	Number of chemical substances registered with the Chemical Abstracts Service	24
Figure 3:	Timeline of the beyond 2020 process and selected relevant meetings on SMCW	33
Figure 4:	Map of GHS implementation.....	40
Figure 5:	Global estimated deaths due to risk factors and causes.....	42
Figure 6:	Schematic for the structure of a system of objectives and targets.....	55

List of tables

Table 1:	Number of chemical substances in national/regional inventories.....	23
Table 2:	Examples of health effects associated with exposure to chemicals	25
Table 3:	SWOT analysis of SAICM.....	44
Table 4:	Structure of selected strategic plans and frameworks.....	46
Table 5:	List of emerging policy issues and issues of concern; lead agencies; and conference of adoption	56
Table 6:	Funding in the Chemicals and Waste Focal Area in GEF6 and GEF7, in million US\$.....	63
Table 7:	Reform options for SAICM and SMCW beyond 2020.....	65

List of abbreviations

ACC	American Chemistry Council
BMU	Federal Ministry for the Environment, Nature Conservation and Nuclear Safety
BRS	Basel, Rotterdam, and Stockholm conventions
CAS	Chemical Abstracts Service
CBD	Convention on Biological Diversity
CO₂	Carbon dioxide
CEFIC	European Chemical Industry Council
CEE	Central and Eastern Europe
COP	Conference of the Parties
CRC	Chemicals Review Committee
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
GCO	Global Chemicals Outlook
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
GPA	Global Plan of Action
GRULAC	Group of Latin American and Caribbean States
HLPF	High-level Political Forum on Sustainable Development
ICCA	International Council of Chemical Associations
ICCM	International Conference on Chemicals Management
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
IGO	Intergovernmental organization
ILO	International Labour Organization
IOMC	Inter-Organization Programme for the Sound Management of Chemicals
ISC₃	International Sustainable Chemistry Collaborative Center
IP	Intersessional process
JPoI	Johannesburg Plan of Implementation
JUSSCANNZ	Group of countries encompassing Japan, United States, Switzerland, Canada, Norway, New Zealand
MEAs	Multilateral environmental agreements
NAP	National action plan
NGO	Non-governmental organization
OECD	Organisation for Economic Cooperation and Development
OEWG	Open-ended Working Group
OPS	Overarching Policy Strategy
OOG	Overall orientation and guidance
PBT	Persistent, bioaccumulative, and toxic
POPRC	Persistent Organic Pollutants Review Committee

REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RoP	Rules of Procedure
SAB	UN Secretary-General’s Scientific Advisory Board
SAICM	Strategic Approach to International Chemicals Management
SDGs	Sustainable Development Goals
SMCW	Sound management of chemicals and waste
SWOT	Strengths, weaknesses, opportunities and threats
TSCA	Toxic Substances and Control Act
UBA	German Environment Agency
UN	United Nations
UNCCD	United Nations Convention to Combat Desertification
UNCSD	United Nations Conference on Sustainable Development
UNDP	United Nations Development Programme
UNEA	United Nations Environment Assembly
UNEP	United Nations Environment Programme (until 2017)
UN Environment	United Nations Environment Programme (since 2017)
UNIDO	United Nations Industrial Development Organization
VNR	Voluntary national reviews
WEOG	Western European and Others Group
WHA	World Health Assembly
WHO	World Health Organization
WSSD	World Summit on Sustainable Development

Summary

The global production of chemicals is expected to almost double between 2015 and 2030, and many new substances will enter the market over the coming years. While chemical uses offer numerous benefits to society, chemical pollution causes significant damages to human health and the environment – however, there is not enough robust data on the economic, social and environmental costs of inaction and the benefits of action on SMCW. Furthermore, basic chemical and waste management is not or only partially implemented in some of the countries most affected by the consequences from unsound management of chemicals throughout their lifecycle.

The Strategic Approach to International Chemicals Management (SAICM) was established at the first session of the International Conference on Chemicals Management (ICCM) in Dubai in 2006. Its overall objective is the achievement of the goal 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.” The Strategic Approach is unique in its ambitious 2020 goal, overarching scope and multisectoral and multi-stakeholder approach. It is an important milestone on the pathway to sustainable development.

This goal has only partially been achieved, and progress across the various areas in which SAICM is active has been mixed. With 2020 approaching, considerations on SAICM and the SMCW need to be undertaken, which could also include to restructure, replace, or otherwise reform the Strategic Approach and the entire chemicals and waste cluster. The need to strengthen the sound management of chemicals and waste in the long term was acknowledged by Resolution 1/5, adopted at the first session of the United Nations Environment Assembly (UNEA1) in 2014. It was further spelled out by ICCM4 in 2015, when delegates decided in resolution IV/4 “to initiate an intersessional process to prepare recommendations regarding the Strategic Approach and the sound management of chemicals and waste beyond 2020” (see Appendix A). This opens a window of opportunity to enhance SAICM and the SMCW and make it fit for purpose, and also to rethink the governance architecture dealing with the sound management of chemicals and waste (SMCW). The intersessional process (IP) is open to all stakeholders, includes up to four meetings until 2020 and is facilitated by two co-chairs. It should develop measurable objectives in support of the 2030 Agenda for Sustainable Development. A decision on beyond 2020 will be taken by ICCM5 in 2020. In addition, an independent evaluation on the Strategic Approach was mandated, which should guide discussions on the beyond 2020 framework.

At the first two meetings of the intersessional process, stakeholders discussed the elements to be considered by the intersessional process, and the two co-chairs provided a draft outline for the outcome document to be agreed upon at ICCM5 in 2020. At IP1, most stakeholders expressed the view that a beyond 2020 framework should continue as a voluntary, multi-stakeholder and multisectoral platform for addressing chemicals and waste-related issues for which no other agreement has been established. There is beginning convergence that it should build on, and possibly replace, SAICM, focus on capacity building and implementation, establish a limited number of achievable and strategic objectives and measurable targets, and strive to engage more downstream users of chemicals as well as fostering high-level engagement and increase public awareness of SMCW. Other elements have been touched upon but require further consultation, including a possible enhanced science-policy interface and matters of governance and financing.

An analysis of the strengths, weaknesses, opportunities and threats (SWOT) reveals which elements of the Strategic Approach have worked well and should be retained in a beyond 2020 framework, which were problematic and should be reformed, what a beyond 2020 framework

could achieve to enhance SMCW, and what may detrimentally affect the reform efforts and outcomes. It shows that SAICM has only partially been able to engage stakeholders so that they effectively deal with the increasing chemical intensification of global economies, the increase in chemical production and use, and the associated health and environmental challenges. The SWOT analysis was undertaken based on input from European stakeholders participating at a workshop in Brussels, on a literature review, and on interviews conducted with stakeholders in 2015 – 2016.

SAICM has considerable **strengths**, beginning with an ambitious goal that can guide stakeholders and an overarching scope addressing a broad range of agricultural and industrial chemicals, as well as taking into account the entire life-cycle of chemicals. As a voluntary, multi-stakeholder and multisectoral platform, it brings together diverse actors and enables participatory decision-making and creating ownership. Governments and other stakeholders meet at sessions of the ICCM, of the Bureau, of regional meetings to exchange views and discuss how to deal with chemicals-related challenges. SAICM has launched a number of cooperative actions on emerging policy issues (EPs) and other issues of concern, including through multi-stakeholder partnerships. Initial funding was provided through the Quick Start Program (QSP), which enabled governments and other stakeholders to implement projects and contribute to capacity development. SAICM has fostered multi-stakeholder and multisectoral cooperation on the national level.

However, the Strategic Approach also has serious **weaknesses**. It is largely considered an instrument of the environmental sector, although the health sector is also engaged. Several sectors like agriculture and labor are only occasionally present or not at all. The chemical industry takes part in ICCM and regional meetings, among others, yet downstream users of chemicals are largely absent. ICCM decisions have rarely been adopted by IOMC governing councils, and SAICM has largely failed at exercising the necessary soft power a voluntary instrument relies on to make an impact. Its set of activities and EPs does not follow a clear plan by, for example, tackling chemical pollution in a way that prioritizes what causes most harm to humans or environmental degradation. SAICM has not established a meaningful monitoring program for assessing progress in reaching the 2020 goal, and while the Global Chemicals Outlook (GCO) from the UN Environment Programme does attempt to provide an overarching view, it has not led to a strengthened role and visibility of the Strategic Approach. In short, despite its name SAICM has never been able to act in a very strategic manner. Many of the shortcomings of the Strategic Approach can be traced back to the serious shortage of funds, which also led to an understaffed secretariat. Taken together, funding for SAICM through various channels (e.g. Quick Start Programme, extrabudgetary funds, and contributions from the Environment Fund) amounted to about US\$ 15 million per year for the first 10 years (cf. SAICM 2018b). Especially if compared to the economic turnover of the chemicals and pharmaceutical industry of about 5.2 trillion US\$ per year, this low level of funding becomes even more striking.

Among the important **opportunities** for the beyond 2020 process and the future framework is the central role which chemicals play for achieving the 2030 Agenda, and by outlining more forcefully the contribution of SMCW to achieve the SDGs. Another opportunity is the increasing attention to various forms of pollution as a major cause of harm to human health and the environment. While air and water pollution are scientifically established as serious health hazards leading to about 9 million deaths annually (Landrigan et al. 2018), robust figures are lacking for the various forms of chemical and waste pollution. Further enhancing a sound scientific basis to quantify the health burden and the economic costs of inaction on chemicals throughout their lifecycle could contribute to fostering engagement in the beyond 2020 framework. Furthermore, a number of issues with strong links to chemicals are intensively

discussed in the media and among environmental and social activists, including plastic pollution, pesticides, and sustainability in the textiles sector. Connecting the Strategic Approach more strongly with such high profile issues and clearly outlining the benefits of enhancing SMCW could lead to much needed political and public attention, and in turn broader engagement and increasing funds to be made available for the beyond 2020 framework.

Last but not least, there are considerable **threats** to the intersessional process. As a voluntary platform, SAICM seems to have a relatively low profile among most stakeholders, and especially within the private sector. First and foremost, there is a risk associated with the relatively low priority stakeholders assign to the IP, and that is a mediocre outcome, which in turn could result in a deteriorating stakeholder engagement in the future framework. Another threat is the possibility that mega-issues such as climate change will receive even more attention (and funds), which could diminish some of the recently growing awareness on chemicals-related issues. Both threats could lead to continuous underfunding of the future framework, further impairing its ability to implement its objectives and thus fostering the demise in attention and engagement – a vicious cycle which could lead to the failure of the framework.

The reform proposals outlined in this study embark from the premise that the voluntary, multi-stakeholder and multisectoral character of SAICM will be maintained in the beyond 2020 framework. This report discusses a set of key elements to be included in a renewed framework. These are building on the elements within related areas found in global governance, and also reflecting on the first drafts on the future framework provided by the co-chairs of the intersessional process. The following options and recommendations can be outlined with regards to the core elements of a beyond 2020 framework:

- ▶ The **vision** should be clear, forward-looking, and easily communicable. Proposals include “prevent adverse effects of chemicals throughout their lifecycle on the environment and human health”, or simply “eliminate toxic pollution”.
- ▶ The set of **principles** should largely build on those entailed in the Overarching Policy Strategy (OPS) but should be extended by the Rio+20 outcome document “The Future we Want” and the 2030 Agenda on Sustainable Development and relevant UNEA and WHA resolutions.
- ▶ The **scope** should be extended to introduce at least some relevant aspects of sustainable chemistry. The future scope should enable the beyond 2020 framework to address the entire life-cycle of chemicals and turn the future platform into a forum where more publicly visible chemicals-related issues will be discussed, which in turn makes it more interesting to new participants and may open up new avenues for accessing funds. In that regard, the set of emerging policy issues (EPI) and issues of concern should be rethought. Stakeholders should carefully assess whether these cover priority areas, and they should introduce elements that foster direct collaborative action and implementation. These might include tangible goals, clearly delineated responsibilities, and a review procedure to assess progress and identify gaps.
- ▶ The **governance and institutional arrangements** should be strengthened to enable the beyond 2020 framework to fulfill its strategic and coordinating role, and to foster multi-stakeholder-driven activities on SMCW from the local to the global level. In particular, The ICCM should take place every two years, taking turns with the Conference of the Parties of

the Basel, Rotterdam and Stockholm Convention (BRS COPs) so that one major conference on SMCW takes place every year, next to the Minamata COP. The ICCM itself should be redesigned, to include a stakeholder day ahead of the official meeting and introduce thematic days or segments to foster multisectoral participation.

- ▶ A new set of **strategic objectives and measurable targets**, developed cooperatively and designed to be relevant for all stakeholders from low-, medium- and high-income countries, is one of the key element of a renewed framework. It requires special attention and consideration. It should be inclusive and be formulated jointly with stakeholders from all sectors. The individual objectives should be achievable yet challenging and cover a wide range of chemicals-related issues, possibly on a by-sector basis, and formulated in support of the 2030 Agenda.
- ▶ **Emerging policy issues** should be reformed, most notably by more clearly outlining intended deliverables, making clear which stakeholders are responsible for delivering, and a follow-up mechanism that makes progress transparent. Furthermore, they should be renamed to “issues of global concern”. **National implementation** should be fostered through national strategies or implementation plans. These should be established through a national-level multi-stakeholder effort and outline how the objectives and targets ought to be implemented. The plans should be subject to a voluntary review procedure. As national implementation is building on related capacities, related support mechanisms are needed.
- ▶ An **enhanced science-policy interface** could strengthen links with the academic sector, and be used to conduct assessments to assess the state of chemical production and the extent of chemical pollution as well as the costs of inaction on unsound chemicals and waste management. It could provide the structure for producing future editions of the Global Chemicals Outlook, which should primarily be used to summarize current developments and trends in the chemicals world and assess progress on the implementation of the objectives and targets. A second work stream under the interface’s mechanism could issue thematic assessments to provide robust advice to stakeholders, including on the costs of inaction or on issues of global concern.
- ▶ **Financing** will be the pivotal issue. No matter how lean, smart and otherwise well-designed a beyond 2020 framework will be, the outcomes and impacts will be limited without a well-staffed Secretariat and sufficient funds for implementing projects addressing issues of global concern as well as fostering regional coordination and holding a major SMCW conference every two years.

The study concludes with the recommendation for the Federal Government of Germany to focus on three areas: 1) Overhauling the emerging policy issues, 2) enhancing the science-policy interface, and 3) continue to engage in drafting an integrative and encompassing set of strategic objectives and measurable targets. To gather support for a successful reform requires further coalition-building and informal work on these and other elements for reform towards a beyond 2020 framework. With less than two years until ICCM5, there is still enough time to carve out the core elements for a strengthened governance architecture. However, the upcoming meetings must be used in a more stringent and outcome-oriented way than IP1 and IP2 have been able to achieve. A strengthened framework on chemicals and waste is necessary to deal with the quickly

growing and complex challenges from chemical pollution for human health and the environment. The new framework needs to be able to address existing issues as much as it must be equipped with instruments and procedures that allow it to tackle future challenges. To ensure that everyone can enjoy the benefits of modern chemicals use, and that no one suffers from unintended exposure to toxic substances, requires a bold new framework that will last long beyond 2020.

Zusammenfassung

Es wird erwartet, dass die weltweite Chemikalienproduktion sich vom Jahr 2015 bis zum Jahr 2030 verdoppeln wird und dass dies damit einhergeht, dass zahlreiche neue Stoffe in den kommenden Jahren auf den Markt kommen werden. Während die Nutzung von Chemikalien für die Gesellschaft zahlreiche Vorteile bietet, führt die Verschmutzung durch Chemikalien zu signifikanten Schäden der Gesundheit des Menschen und der Umwelt, auch wenn es hier an robusten Daten zu den ökonomischen, sozialen und Umweltkosten bei Untätigkeit und gleichzeitig zu den Vorteilen eines Chemikalien- und Abfallmanagements mangelt. Hinzukommt, dass in einigen Ländern das grundlegende Chemikalien- und Abfallmanagement nicht oder nur teilweise umgesetzt wird. Dies sind überwiegend die Länder, die von den Konsequenzen eines nicht umweltgerechten Chemikalienmanagements im gesamten Lebenszyklus am schlimmsten betroffen sind.

Der Strategische Ansatz zum Internationalen Chemikalienmanagement (SAICM) ist ein globales freiwilliges Rahmenwerk zur Chemikaliensicherheit, das 2006 beim ersten Treffen der internationalen Konferenz zum Chemikalienmanagement (ICCM) in Dubai gegründet wurde. Sein übergeordnetes Ziel ist, dass Chemikalien bis zum Jahr 2020 „so produziert werden, dass signifikante negative Effekte auf die menschliche Gesundheit und Umwelt minimiert werden“. SAICM ist in seinem ambitionierten Ziel, seinem umfassenden Wirkungsbereich und seinem multisektoralen und multi-Stakeholder Ansatz einzigartig und ein wichtiger Meilenstein auf dem Weg zur nachhaltigen Entwicklung.

Dieses Ziel ist nur teilweise erreicht worden und die Fortschritte in den verschiedenen Bereichen in denen SAICM tätig ist sind unterschiedlich. Mit Blick auf das Jahr 2020 müssen SAICM und das SMCW überdacht werden, was auch die Umstrukturierung, Ersetzung oder sonstige Reform des strategischen Ansatzes und des gesamten Chemikalien- und Abfallcluster umfassen könnte. Die Notwendigkeit, das solide Chemikalien- und Abfallmanagement langfristig zu stärken, wurde in der Resolution 1/5 anerkannt, die auf der ersten Tagung der Umweltversammlung der Vereinten Nationen (UNEA1) im Jahr 2014 angenommen wurde. Es wurde 2015 von der ICCM4 weiter konkretisiert, als die Delegierten in der Resolution IV/4 beschlossen, "einen intersessionalen Prozess einzuleiten, um Empfehlungen für den strategischen Ansatz und das Chemikalien und Abfallmanagement nach 2020 auszuarbeiten" (siehe Anhang A). Dies eröffnet die Möglichkeit, SAICM und das SMCW zu verbessern und zweckmäßig zu gestalten, aber auch die Steuerung (Governance) im Bereich des Chemikalien- und Abfallmanagements (SMCW) zu überdenken und zweckmäßig zu gestalten. Der intersessionale Prozess (IP) steht allen Stakeholdern offen, umfasst bis zu vier Sitzungen bis 2020 und wird von zwei Ko-Vorsitzenden moderiert. Er soll ferner messbare Ziele zur Unterstützung der Agenda 2030 für nachhaltige Entwicklung herausarbeiten. Eine Entscheidung über die Zeit nach 2020 wird von der ICCM5 im Jahr 2020 getroffen. Darüber hinaus wurde eine unabhängige Evaluierung des strategischen Ansatzes in Auftrag gegeben, der die Diskussionen über das *beyond 2020 Framework* leiten soll.

Auf den ersten beiden Sitzungen des intersessionalen Prozesses diskutierten die Beteiligten die Elemente, die für den intersessionalen Prozess zu berücksichtigen sind, und die beiden Ko-Vorsitzenden legten einen Entwurf für das Ergebnisdokument vor, das 2020 auf der ICCM5 vereinbart werden soll. Beim IP1 waren sich die meisten Stakeholder einig in ihrer Auffassung, dass das *beyond 2020* Rahmenwerk weiterhin als freiwillige, multi-Stakeholder- und multisektorale Plattform für die Behandlung von Chemikalien und abfallbezogenen Fragen dienen sollte, für die keine andere multilaterale Vereinbarung getroffen wurde. Es beginnt eine Konvergenz, dass die neue Plattform auf SAICM aufbauen und es möglicherweise sogar ersetzen

sollte. Ferner soll sich verstärkt auf die Kapazitätsentwicklung und Implementierung fokussiert werden, ein System einer begrenzten Zahl erreichbarer strategischer Ziele und messbarer Unterziele eingeführt werden, sich bemüht werden mehr nachgeschaltete Anwender von Chemikalien einzubeziehen, das Engagement auf hoher Ebene zu fördern und das öffentliche Bewusstsein für SMCW zu schärfen. Andere Elemente wurden angesprochen, bedürfen aber weiterer Überlegungen, einschließlich einer möglichen verbesserten Schnittstelle zwischen Wissenschaft und Politik sowie Governacne- und Finanzierungsfragen.

Eine Analyse der Stärken, Schwächen, Chancen und Risiken (SWOT) zeigt (1) welche Elemente des strategischen Ansatzes gut funktioniert haben und in einem über 2020 hinausgehenden Rahmenwerk beibehalten werden sollten, (2) jene, die problematisch waren und reformiert werden sollten, (3) was ein erneuertes Rahmenwerk zur Verbesserung des SMCW bewirken könnte und (4) was sich nachteilig auf die Reformbemühungen und -ergebnisse auswirken kann. Es zeigt, dass SAICM nur teilweise in der Lage war, Stakeholder einzubeziehen, um der zunehmenden chemischen Intensivierung der Weltwirtschaft, der Zunahme der chemischen Produktion und Verwendung und den damit verbundenen Gesundheits- und Umweltproblemen wirksam zu begegnen. Die SWOT-Analyse wurde auf der Grundlage von Beiträgen der europäischen Stakeholder, die an einem Workshop in Brüssel teilgenommen haben, einer Literaturrecherche und von Interviews mit Stakeholdern in den Jahren 2015 - 2016 durchgeführt.

SAICM verfügt über beträchtliche **Stärken**, beginnend mit einem ambitionierten Ziel, das die Stakeholder anleiten kann, und einem weitreichenden Wirkungsbereich, der ein breites Spektrum von Agrar- und Industriechemikalien abdeckt und den gesamten Lebenszyklus von Chemikalien berücksichtigt. Als freiwillige, multi-Stakeholder- und multisektorale Plattform bringt sie verschiedene Akteure zusammen und ermöglicht partizipative Entscheidungen sowie die Schaffung von *Ownership*. Regierungen und andere Stakeholder-Gruppen treffen sich zu Sitzungen der ICCM, des Büros und bei Regionaltreffen zum Meinungsaustausch und zur Diskussion über den Umgang mit chemikalienbezogenen Herausforderungen. SAICM hat eine Reihe von kooperativen Maßnahmen zu neu auftretenden politischen Themen (*emerging policy issues*, EPIs) und anderen Themen von Belang (*issues of concern*) eingeleitet, unter anderem durch Multi-Stakeholder-Partnerschaften. Die Erstfinanzierung erfolgte über das Quick Start Program (QSP), welches es Regierungen und anderen Beteiligten ermöglichte Projekte durchzuführen und zum Kapazitätsaufbau beizutragen. SAICM hat die Zusammenarbeit zwischen verschiedenen Interessengruppen und multisektoralen Organisationen auf nationaler Ebene gefördert.

Der strategische Ansatz weist jedoch auch gravierende **Schwächen** auf. Es wird weitgehend als ein Instrument des Umweltsektors angesehen, obgleich auch der Gesundheitssektor engagiert ist. Andere Sektoren wie Landwirtschaft und Arbeit sind nur gelegentlich oder gar nicht vertreten. Die chemische Industrie nimmt unter anderem an ICCM- und Regionaltreffen teil, während nachgeschaltete Anwender von Chemikalien weitgehend abwesend sind. Die Entscheidungen der ICCM wurden nur selten von den IOMC-Räten aufgegriffen und SAICM hat es weitgehend versäumt, die notwendige Soft Power auszuüben, auf die sich ein freiwilliges Instrument bei der Wirkungserzielung sonst stützt. Ihre Aktivitäten und EPIs folgen keinem klaren Plan, indem sie beispielsweise die chemische Verschmutzung so angehen, dass sie den Schwerpunkt darauf legen, was den Menschen am meisten Schaden zufügt oder die Umwelt schädigt. SAICM hat kein sinnvolles Überwachungsprogramm zur Bewertung der Fortschritte bei der Erreichung des Ziels 2020 eingerichtet, und obwohl der Global Chemicals Outlook (GCO) des UN-Umweltprogramms versucht, eine übergreifende Sichtweise zu vermitteln, hat er nicht zu einer Stärkung der Rolle und Sichtbarkeit des Strategischen Ansatzes geführt. Kurz gesagt,

trotz seines Namens war SAICM nie in der Lage, besonders strategisch zu handeln. Viele der Mängel des strategischen Ansatzes sind auf die gravierende Mittelknappheit zurückzuführen, die auch zu einem unterbesetzten Sekretariat führte. Insgesamt belief sich die Finanzierung von SAICM über verschiedene Kanäle (z.B. Quick Start Programme, außerbudgetäre Fonds und Beiträge des Umweltfonds) in den ersten 10 Jahren auf rund 15 Mio. USD pro Jahr (vgl. SAICM 2018b). Vor allem im Vergleich zum Wirtschaftsumsatz der Chemie- und Pharmaindustrie von rund 5,2 Billionen US-Dollar pro Jahr wird dieses niedrige Finanzierungsniveau noch deutlicher.

Zu den wichtigen **Chancen** für den Prozess nach 2020 und das zukünftige Rahmenwerk gehören die zentrale Rolle, die Chemikalien bei der Verwirklichung der Agenda von 2030 spielen, und die stärkere Darstellung des Beitrags von SMCW zur Erreichung der Nachhaltigkeitsziele. Eine weitere Chance ist die zunehmende Aufmerksamkeit, die den verschiedenen Formen der Umweltverschmutzung als Hauptursache für Schäden für die menschliche Gesundheit und die Umwelt geschenkt wird. Während die Luft- und Wasserverschmutzung wissenschaftlich als ernsthafte Gesundheitsgefahr mit jährlich etwa 9 Millionen Todesfällen nachgewiesen ist (Landrigan et al. 2018), fehlen robuste Zahlen für die verschiedenen Formen der Belastung durch Chemikalien und Abfälle entlang des Lebenszyklus. Die weitere Verbesserung einer soliden wissenschaftlichen Grundlage zur Quantifizierung der gesundheitlichen Belastung und der wirtschaftlichen Kosten der Untätigkeit im Bereich Chemikalienmanagement könnte dazu beitragen, das Engagement im Rahmenwerk der Zeit nach 2020 zu fördern. Darüber hinaus werden in den Medien und unter Umwelt- und Sozialaktivisten eine Reihe von Themen mit starken Verbindungen zu Chemikalien intensiv diskutiert, darunter Kunststoffverschmutzung, Pestizide und Nachhaltigkeit im Textilsektor. Eine stärkere Verbindung des strategischen Ansatzes mit solch hochkarätigen Themen und eine klare Darstellung der Vorteile einer Verbesserung des SMCW könnte zu der dringend benötigten politischen und öffentlichen Aufmerksamkeit führen, was wiederum zu einem breiteren Engagement und einer Aufstockung der Mittel führen könnte, die für das Rahmenwerk nach 2020 bereitgestellt werden sollen.

Nicht zuletzt gibt es erhebliche **Bedrohungen** für den intersessionalen Prozess. Als freiwillige Plattform scheint SAICM bei den meisten Interessengruppen, insbesondere im Privatsektor, ein relativ niedriges Profil zu haben. Zunächst ist eines der Risiken die relativ niedrigen Prioritäten, die die Stakeholder dem intersessionalen Prozess zuweisen. Dies ist ein mittelmäßiges Ergebnis, das wiederum zu einer Verschlechterung des Engagements der Stakeholder im zukünftigen Rahmenwerk führen könnte. Eine weitere Bedrohung ist die Möglichkeit, dass Megathemen wie der Klimawandel noch mehr Aufmerksamkeit (und Gelder) erhalten, was einen Teil des in jüngster Zeit wachsenden Bewusstseins für chemikalienbezogene Themen schwächen könnte. Beide Bedrohungen könnten zu einer anhaltenden Unterfinanzierung des künftigen Rahmenwerks führen, die seine Fähigkeit zur Umsetzung seiner Ziele weiter beeinträchtigt und damit den Niedergang von Aufmerksamkeit und Engagement fördert - ein Teufelskreis, der zum Scheitern des Rahmenwerks führen könnte.

Die in dieser Studie skizzierten Reformvorschläge gehen von der Annahme aus, dass der freiwillige, multi-Stakeholder- und multisektorale Charakter von SAICM im zukünftigen Rahmenwerk der Zeit nach 2020 beibehalten wird. In diesem Bericht werden eine Reihe von Schlüsselementen diskutiert, die in einem erneuerten Rahmenwerk aufgenommen werden sollen. Diese bauen auf den Elementen aus dem Bereich der *Global Governance* auf und reflektieren auch die ersten Entwürfe für das künftige Rahmenwerk, die von den Ko-Vorsitzenden des intersessionalen Prozesses vorgelegt wurden. Die folgenden Optionen und Empfehlungen können im Hinblick auf die Kernelemente eines über 2020 hinausgehenden Rahmenwerks skizziert werden:

- ▶ Die **Vision** sollte klar, zukunftsorientiert und leicht kommunizierbar sein. Zu den Vorschlägen gehören “*prevent adverse effects of chemicals throughout their lifecycle on the environment and human health*” oder einfach “*eliminate toxic pollution*”.
- ▶ Die **Prinzipien** sollten weitgehend auf denjenigen aufbauen, die in der *Overarching Policy Strategy* (OPS) enthalten sind, sollten aber durch das Rio+20 Ergebnisdokument “The Future we Want” und die Agenda 2030 zur nachhaltigen Entwicklung, sowie relevanter UNEA und WHA Resolutionen erweitert werden.
- ▶ Der **Anwendungsbereich** sollte erweitert werden, um zumindest einige relevante Aspekte der nachhaltigen Chemie einzuführen. Der zukünftige Anwendungsbereich sollte es dem Rahmenwerk für die Zeit nach 2020 ermöglichen, den gesamten Lebenszyklus von Chemikalien zu behandeln und die zukünftige Plattform in ein Forum zu verwandeln, in dem öffentlich sichtbare chemikalienbezogene Fragen diskutiert werden, was wiederum das Interesse neuer Teilnehmer/innen erhöht und neue Wege für den Zugang zu Finanzmitteln eröffnen kann. In diesem Zusammenhang sollten die Reihe der neu auftretenden politischen Themen (EPs) und der *issues of concern* überdacht werden. Die Stakeholder sollten sorgfältig prüfen, ob sie prioritäre Bereiche abdecken, und Elemente einführen, die eine direkte Zusammenarbeit und Umsetzung fördern. Dazu können konkrete Ziele, klar umrissene Verantwortlichkeiten und ein Überprüfungsverfahren zur Bewertung der Fortschritte und zur Identifizierung von Lücken gehören.
- ▶ Die **Governance und die institutionellen Arrangements** sollten gestärkt werden, damit das Rahmenwerk für die Zeit nach 2020 seine strategische und koordinierende Rolle erfüllen und Aktivitäten im Bereich des SMCW, die von mehreren Interessengruppen getragen werden, von der lokalen bis zur globalen Ebene fördern kann. Insbesondere sollte die ICCM alle zwei Jahre stattfinden, abwechselnd mit der Konferenz der Vertragsparteien des Basler, Rotterdamer und Stockholmer Übereinkommens (BRS COPs), so dass in jedem Jahr eine große Konferenz zum Thema SMCW stattfindet, neben der Minamata COP und weiteren Treffen. Die ICCM selbst sollte neu gestaltet werden, um einen Stakeholder-Tag vor dem offiziellen Treffen und thematische Tage oder Segmente einzuführen, um die multisektorale Beteiligung zu fördern.
- ▶ Ein neuer Satz von **strategischen Zielen und messbaren Zielen**, die kooperativ entwickelt wurden und für alle Interessengruppen aus Ländern mit niedrigem, mittlerem und hohem Einkommen relevant sind, ist eines der Schlüsselemente eines erneuerten Rahmenwerks. Sie erfordert besondere Aufmerksamkeit und Rücksichtnahme. Sie sollte integrativ sein und gemeinsam mit Interessengruppen aus allen Bereichen formuliert werden. Die einzelnen Ziele sollten erreichbar, aber herausfordernd sein und ein breites Spektrum chemikalienbezogener Fragen abdecken, möglicherweise auf sektoraler Basis, und zur Unterstützung der Agenda 2030 formuliert werden.
- ▶ Die **Emerging Policy Issues** sollten reformiert werden, maßgeblich durch eine deutlich klarere Darstellung der intendierten Aktivitäten zur Umsetzung und der Verantwortlichkeiten zwischen den beteiligten Stakeholdern, und durch einen Review-

Mechanismus, der Fortschritte überprüfbar machen soll. Außerdem sollten sie generell umbenannt werden in „*issues of global concern*“. Die **nationale Umsetzung** sollte durch nationale Strategien oder Umsetzungspläne gefördert werden. Diese sollten durch eine Multi-Stakeholder-Bemühung auf nationaler Ebene festgelegt werden und beschreiben, wie die Ziele und Vorgaben umgesetzt werden sollten. Die Pläne sollten einem freiwilligen Überprüfungsverfahren unterzogen werden. Da eine nationale Umsetzung auf entsprechenden Kapazitäten aufbaut, sind entsprechende Unterstützungsmechanismen erforderlich.

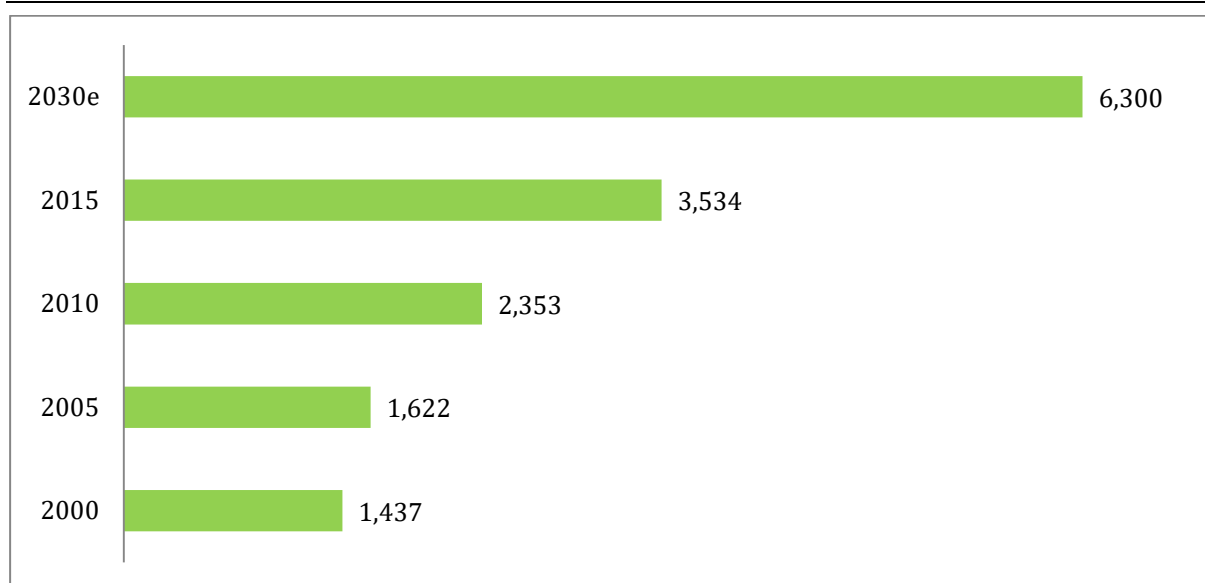
- ▶ Eine **verbesserte Schnittstelle zwischen Wissenschaft und Politik** (SPI) könnte die Verbindungen zum akademischen Sektor stärken und zur Durchführung von Bewertungen, z.B. über die Kosten der Untätigkeit beim Management ungesunder Chemikalien und Abfalls, verwendet werden. Es könnte die Struktur für die Erstellung zukünftiger Ausgaben des Global Chemicals Outlook liefern, der in erster Linie dazu verwendet werden sollte, aktuelle Entwicklungen und Trends in der Chemiewelt, einschließlich des Produktionsvolumens von Chemikalien, zusammenzufassen und negative Externalitäten mit hoher Auswirkung darzustellen. Somit könnte er die Fortschritte bei der Umsetzung der Ziele und Vorgaben konkret bewerten. Ein zweiter Arbeitsablauf im Rahmen des SPI könnte Bewertungen durchführen, um den Stakeholdern fundierte Ratschläge zu geben, auch zu den Kosten der Untätigkeit oder zu Fragen der *issues of global concern*.
- ▶ Die **Finanzierung** wird das zentrale Thema der Verhandlungen und Entscheidungen über ein neues Rahmenwerk sein. Unabhängig davon, wie schlank, intelligent und anderweitig gut konzipiert ein Rahmen für die Zeit nach 2020 sein wird: die Ergebnisse und Auswirkungen werden begrenzt, wenn nicht gleichzeitig ein gut besetztes Sekretariat und ausreichende Mittel für die Durchführung von Projekten zu den *issues of global concern*, sowie für die Förderung der regionalen Koordination und die Durchführung einer SMCW Konferenz alle zwei Jahre.

Die Studie endet mit der Empfehlung für die Bundesregierung, sich auf drei Kerngebiete zu konzentrieren: 1) Die Emerging Policy Issues zu überarbeiten, 2) das Science-Policy Interface auszubauen, und sich 3) weiterhin für einen integrierenden und umfassenden Entwurf von strategischen Zielen und messbaren Unterzielen zu engagieren. Um Unterstützung für eine erfolgreiche Reform zu gewinnen, bedarf es der zunehmenden Stärkung von Bündnissen und der weiteren informellen Arbeit an diesen und anderen Elementen der Reform in Richtung eines Rahmenwerks über 2020 hinaus. Mit knapp zwei Jahren bis zur ICCM5 bleibt genügend Zeit, um die Details zu diskutieren und zu vereinbaren. Die anstehenden Treffen müssen jedoch stringenter und ergebnisorientierter genutzt werden, als es das IP1 und IP2 erreicht haben. Ein gestärktes Rahmenwerk für die Zeit nach 2020 ist notwendig, um die schnell wachsenden und komplexen Herausforderungen für Umwelt und menschliche Gesundheit im Chemikalienbereich zu adressieren. Das neue Rahmenwerk muss in die Lage gebracht werden, bestehende Probleme anzugehen, und ebenso muss es hinreichend ausgestattet sein, um noch kommende Herausforderungen bewältigen zu können. Um sicherzustellen, dass alle Menschen von den Vorteilen des Einsatzes von Chemie profitieren können, und dass niemand unter den nicht intendierten Freisetzungen toxischer Substanzen leidet, braucht ein weitreichendes neues Rahmenwerk, das weit über 2020 hinaus Bestand haben muss.

1 Introduction

Chemicals are a major economic factor. The chemicals industry, including pharmaceuticals, has an annual turnover of almost 5.2 trillion US\$ (about 4.5 trillion €) according to the American Chemistry Council (ACC 2017: 29). The European Chemical Industry Council (Cefic) expects global chemical sales to almost double by 2030, compared to 2015 (Cefic 2018: 7). The growth in the chemicals sector will likely be considerably stronger than overall economic growth, as the global economy is projected to double between 2016 and 2050 (PwC 2017). This means that chemicals will become an even more important element of global economies and their supply chains, mirroring the observation of an on-going chemical intensification (UNEP 2013a).

Figure 1: Global chemical sales between 2000 – 2015, and expected sales in 2030; in billion €



Source: CEFIC 2018; CEFIC 2011.

Chemicals are enabling economic benefits for their downstream users as well as for society (Pittman et al. 2015; Deloitte 2011; Pike 2010). They are furthermore an essential contributor to sustainable development. The 2030 Agenda with its 17 Sustainable Development Goals (SDGs) requires advanced chemistry knowledge and the use of chemicals in numerous ways (Krueger 2015; UN Global Compact and KPMG 2017; ICCA 2017).

As global economies continue to develop and grow, and as billions of people are striving to raise their standard of living and get out of poverty in the 21st century, there will be an increasing need for advanced and sustainable chemistry in order to achieve sustainable development (Friege and Zeschmar-Lahl 2017).

Sustainable chemistry as defined by the International Sustainable Chemistry Collaborative Centre (ISC₃)

Sustainable chemistry is the single largest opportunity to transform the chemicals sector and move entire supply chains towards sustainable circular economy models, avoiding waste, hazardous chemicals, and making better use of natural resources. The emerging concept aims to establish a new system thinking based on a circular approach and focusing on the entire life cycle of products. Sustainable chemistry promotes the use of environmentally and socially friendly alternatives and supports economic innovation. Delivered at scale, it implies new business opportunities, new jobs,

and a key contribution to the UN Sustainable Development Goals (SDGs) as well as to the Strategic Approach to International Chemicals Management (SAICM).

Source: The International Sustainable Chemistry Collaborative Centre: Contributing to the UN Sustainable Development Goals and the Strategic Approach to International Chemicals Management through Sustainable Chemistry Innovation, SAICM/IP.2/INF.16, 2018, http://saicm.org/Portals/12/documents/meetings/IP2/IP_2_INF_16_SDGs_ISC3_f.pdf

Chemicals are essential for many key sectors, for producing agricultural goods and pharmaceuticals, for getting safe and clean drinking water, for manufacturing automobiles and airplanes, smartphones and tablets, for the production of textiles and solar photovoltaic panels. As such, chemical safety is an integral aspect of achieving the 2030 Agenda.

Table 1: Number of chemical substances in national/regional inventories

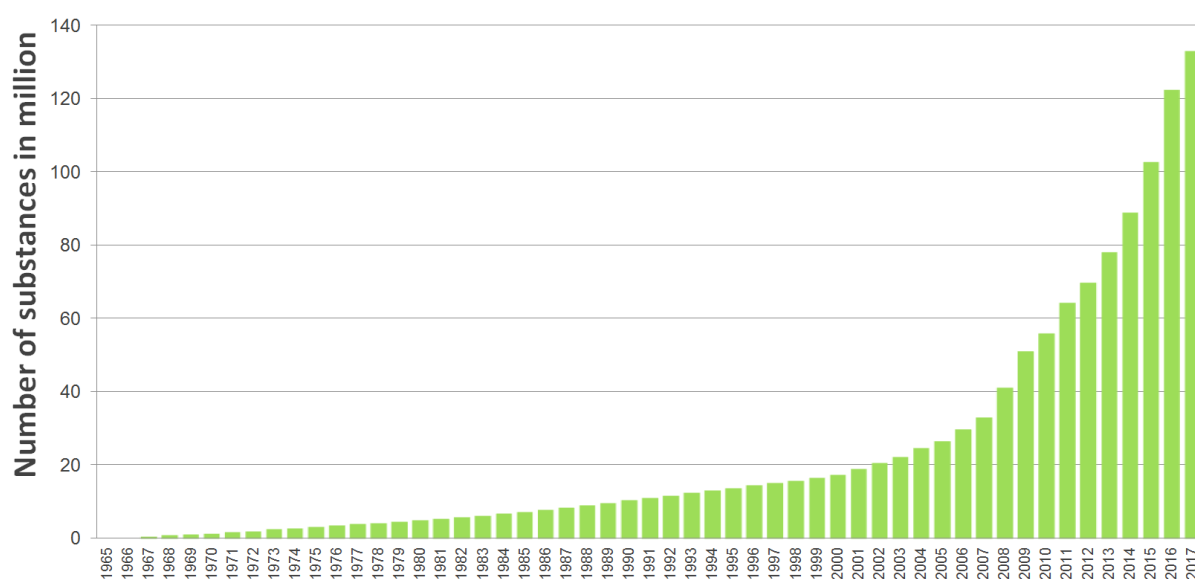
Country / Region	Inventory	Number of substances
USA	TSCA	About 85,000 (2018)
China	IECSC	45,612 (2016 revision)
EU	REACH	21,551 (2018)

Source: EPA; ECHA; CIRS.

It is estimated that about 100,000 chemicals are traded and used at the world market, though the number differs in countries and regions (see Table 1). While already staggering, it can be expected that many new chemicals will be introduced to the market. If the rate by which new substances are invented is any indication, the on-going innovation dynamic might bring numerous new chemicals that could be of potential economic use.

The Chemical Abstracts Service (CAS) maintains a database on all chemical substances, the CAS REGISTRY. It has seen a steep increase in the number of new chemicals on file. Established in 1965, the service celebrated the 10 millionth substance listed in its registry in 1990 and its 100 millionth substance in June 2015. By May 2018, there were more than 142 million chemicals in the database. On average between 1965 and 2016, the CAS has registered one new substance every 2.5 minutes. This rate has seen a rapid increase, and in 2016 there was one new registration every 1.4 seconds. Most of these chemicals never enter the market, yet if only a small fraction does, this means new challenges for global chemical governance. With a view to where innovation takes place, the World Intellectual Property Organization's (WIPO) Intellectual Property Statistics Data Center shows that Asia, and more specifically China, has become the centre of chemicals-related innovation, with patents granted in numbers exceeding those of North America and Europe combined. This does not mean that the latter would not be innovative; on the contrary, it is their innovativeness which keeps the European and North American chemical industry competitive. But in terms of numbers of patents, China has become number one and will remain so for the foreseeable future.

Figure 2: Number of chemical substances registered with the Chemical Abstracts Service



Source: CAS, reprinted with friendly permission.

The downside of the on-going chemical intensification is already visible in the growing number of people whose health is impaired by hazardous substances, and ecosystems which have been seriously damaged. The Lancet Commission on Pollution and Health recently estimated that pollution of air, water and soils leads to more than 9 million premature deaths each year globally, more than three times the number of deaths from tuberculosis, AIDS and malaria combined (Landrigan et al. 2018). There is a lack of evidence on the overall burden of disease related to chemicals, but the WHO estimated that in 2012, 1.3 million lives and 43 million disability-adjusted life years were lost because of exposure to a range of harmful chemicals (WHO 2016).

Furthermore, the WHO estimates that over one third (35%) of ischaemic heart diseases and about 42% of strokes could be prevented by reducing or removing exposure to chemicals such as from ambient and household air pollution, second-hand smoke and lead, and that chemicals like heavy metals, pesticides, solvents, paints, detergents, kerosene, carbon monoxide and drugs lead to unintentional poisoning at home and in the working place. Exposure to certain chemicals is associated with impaired neurodevelopment in children and increases the risk for attention deficit disorders and intellectual disability. Parkinson disease has been associated with exposure to pesticides, and other links to mental, behavioural and neurological disorders are suspected (WHO 2016).

Next to serious health effects, the increasing use of pharmaceutical substances is posing a threat to ecosystems and biodiversity, as there is evidence that the exposure of organisms and ecosystems to pharmaceutical substances puts genetic diversity, species diversity, and community diversity at risk (Carrasco Néstor, 2017).

It is believed that chemical pollution is responsible only for a minority of these deaths, yet the health effects from the release of lead, mercury, arsenic, and sub-lethal effects from endocrine disrupting chemicals and other hazardous substances are not even included in this figure, as science has yet to assess the full scale of the damage they are doing (WHO 2016). What is better known, though, is who bears the burden of disease. As the Global Chemicals Outlook (GCO) notes: “The vast majority of human health costs linked to chemicals production, consumption and disposal are not borne by chemicals producers, or shared down the value-chain.

Uncompensated harms to human health and the environment are market failures that need correction.” (UNEP 2013a: 118)

The GCO also contains the observation: “Of the tens of thousands of chemicals on the market, only a fraction has been thoroughly evaluated to determine their effects on human health and the environment.” (UNEP 2013a: 48) In a set of 95,000 chemicals assessed for potential persistence (P), bioaccumulation potential (B), and toxicity (T), 3-5% were found to exhibit PBT properties (Strempel et al. 2012). The OECD provided the following overview over some of the negative health effects of chemical pollution:

Table 2: Examples of health effects associated with exposure to chemicals

Health effect	Sensitive group	Some associated chemicals
Cancer	All	Asbestos – polycyclic aromatic hydrocarbons (PAHs) – benzene – some metals – some pesticides – some solvents – natural toxins
Cardiovascular diseases	Especially elderly	Carbon monoxide – arsenic – lead – cadmium – cobalt – calcium - magnesium
Respiratory diseases	Children, especially asthmatics	Inhalable particle – sulphur dioxide – nitrogen dioxide – ozone – hydrocarbons – some solvents
Allergies and hypersensitivities	All, especially children	Particles – ozone – nickel – chromium
Reproduction	Adults of reproductive age, fetuses	Polychlorinated biphenyls (PCBs) – DDT – phthalates
Developmental	Foetuses, children	PCBs – lead – mercury – other endocrine disruptors
Nervous system disorders	Foetuses, children	PCBs – methyl mercury – lead – manganese – aluminium – arsenic – organic solvents

Source: OECD 2012: 305.

To foster the sound management of chemicals and hazardous waste multilaterally and in order to avoid their negative effects, the international community has established four legally binding conventions: The Basel, Rotterdam, and Stockholm (BRS) Conventions, and the Minamata Convention (Escobar-Pemberthy et al. 2018; Selin 2010). A number of further instruments and initiatives are making the governance landscape on chemicals even more complex. Apart from the work of the Chemicals and Health Branch under UN Environment, the World Health Organization (WHO) is dealing with the health impact of hazardous substances. The revised International Health Regulations from 2005 are noteworthy as they constitute a public health framework that also deals with chemical events. The WHO Chemicals Road Map (WHO 2017) was adopted in 2017 to enhance health sector engagement in SAICM and beyond. The International Labour Organization (ILO) has established several conventions dealing with hazardous substances in the workplace, most notably the Chemicals Convention (C170) from 1990, which entered into force three years later but is only ratified by 21 countries. The Food and Agriculture Organization (FAO) founded (under a different name) the voluntary International Code of Conduct on Pesticide Management in 1985, which was most recently updated in 2013 through a joint effort of FAO and WHO to include public health concerns about pesticides and vector control. As chemicals management cuts across the mandates of various intergovernmental organizations, nine of them are coordinating their activities in the Inter-Organization Programme for the Sound Management of Chemicals (IOMC).

Voluntary instruments such as the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) provide a common standard for many countries. Last but not least, private governance efforts are also part of the efforts towards SMCW, such as Responsible Care, which is driven by the chemical industry, or sectoral efforts such as the Zero Discharge of Hazardous Substances (ZDHC) initiative by the textile industry.

In an attempt to bring all these diverse activities and stakeholders from the various sector together to foster action on sound chemicals management, in 2006 a voluntary global framework was established, the Strategic Approach to International Chemicals Management (SAICM). The Strategic Approach needs to be strengthened in order to adequately deal with the challenges of sound chemicals and waste management, and to unlock the benefits of chemicals for society. This can only be achieved through concerted efforts by all sectors and stakeholders at all levels. SAICM is not an end in itself, but rather a platform for multi-stakeholder and multisectoral cooperation – at least that was one of the main intentions behind proposing the Strategic Approach in the early 2000s and negotiating it between 2003 and 2006. As the report shows, it has had some success in achieving this, but it has also many weaknesses which a future framework needs to address, or otherwise it will be overwhelmed by the dynamic developments in the global chemical sector.

This report summarizes the key findings from a research project launched in 2015 and which should establish the parameters for an enhanced framework on the sound management of chemicals and waste (SMCW) beyond 2020. The core questions include:

- What should a beyond 2020 framework be able to achieve?
- How should a beyond 2020 framework be designed?

Furthermore, the project set out to bring in the views of SAICM stakeholders and develop ideas how their engagement could be enhanced. For this purpose, we conducted a series of interviews with 38 stakeholders (Simon 2017), organized six workshops, five exclusively with EU member state representatives and one including other stakeholders, participated at relevant SAICM meetings and conferences, and engaged in informal discussions about the future of global chemicals governance.

1.1 The Strategic Approach to International Chemicals Management

The Strategic Approach to International Chemicals Management is a voluntary, multi-stakeholder and multisectoral framework tasked with achieving the sound management of chemicals and waste globally, within regions and countries (Shubber 2012). Although waste is not a central issue for SAICM, its mandate mentions hazardous waste several times in the founding documents.

The development of SAICM dates back to UNEP Governing Council decision 21/7 from 2001, which contained the task “to examine the need for a strategic approach to international chemicals management”. Such an approach was needed because after the adoption of the Stockholm Convention on Persistent Organic Pollutants in 2001, there were now three legally binding multilateral environmental agreements (MEAs) on chemicals and waste, next to the Basel Convention on Transboundary Movement of Hazardous Waste from 1989 and the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in international trade from 1998. This fragmented governance landscape dealt with various aspects of the life-cycle of some chemicals, but did not amount to an overarching framework addressing chemical safety and other aspects of sound chemicals management on a global level (cf. Escobar-Pemberthy et al. 2018; Selin 2010). In 2013, after

prolonged discussions and years of negotiations, the Minamata Convention on Mercury was adopted and added to the chemicals and waste cluster (Selin 2014).

Delegates at the World Summit on Sustainable Development (WSSD) in 2002 provided further impetus on addressing the lack of overarching coordination and steering, and when they adopted the Johannesburg Plan of Implementation (JPOI) they included in para 23b) the call to develop a strategic approach on chemicals. Equipped with this mandate from the highest level, between 2003 and 2005 UNEP organised three five-day sessions of a Preparatory Committee (PrepCom). Final details were agreed at the first International Conference on Chemicals Management in 2006 in Dubai (Persson and Bohn 2012).

ICCM1 established the mandate of the Strategic Approach through three core documents: The Dubai Declaration from 2006 contains the high-level political commitment towards the Strategic Approach, and it outlines the rationale in Para 1: “The sound management of chemicals is essential if we are to achieve sustainable development, including the eradication of poverty and disease, the improvement of human health and the environment and the elevation and maintenance of the standard of living in countries at all levels of development”. The Overarching Policy Strategy (OPS) covers the scope, needs, objectives, financial considerations, principles, implementation and stock-taking procedures. It includes 46 objectives to be achieved by the Strategic Approach, sorted into the areas A) Risk reduction; B) Knowledge and information; C) Governance; D) Capacity-building and technical cooperation; and E) Illegal international traffic (see below). The Global Plan of Action (GPA) outlines the voluntary activities and work areas as well as responsibilities of stakeholders to implement the Strategic Approach.

The governing body of SAICM is the **International Conference on Chemicals Management (ICCM)**. Its main tasks are to review progress in implementing the Strategic Approach, take decisions about the programming and any updates of SAICM, provide guidance to stakeholders, promote SMCW including on the national level, ensure the availability of financial and technical resources for implementation and evaluate the performance of any funding mechanism, promote information exchange and scientific and technological cooperation, and provide a forum for discussion among stakeholders. The ICCM has met four times so far, with the following key outcomes of these sessions:

► **ICCM1: 2006, Dubai**

- Establishment of the Strategic Approach
- Adoption of the Dubai Declaration
- Adoption of the Overarching Policy Strategy (OPS)
- Endorsement of the Global Plan of Action (GPA)
- Establishment of the Quick Start Programme (QSP)

► **ICCM2: 2009, Geneva**

- Agreement on rules of procedure (RoP)
- Agreement on modalities for progress reporting
- Adoption of a list of indicators for measuring progress
- Adoption of four emerging policy issues (EPs):

- Nanotechnology and manufactured nanomaterials
- Chemicals in products (CiP)
- Lead in paint (LiP)
- Hazardous substance within the life cycle of electrical and electronic products (HSLEEP)
- Adoption of an issue of concern:
 - Perfluorinated chemicals and the transition to safer alternatives
- Agreement on a procedure for listing future EPIs
- ▶ **ICCM3: 2012, Nairobi**
 - Extension of the GPA; adoption of one further EPI:
 - Endocrine-disrupting chemicals (EDCs)
 - Extension of the QSP until 2015, and decision on continuing disbursement of funds for approved projects
- ▶ **ICCM4: 2015, Geneva**
 - Launch of the intersessional process on SMCW and SAICM beyond 2020;
 - Adoption of the overall orientation and guidance (OOG)
 - Adoption of one further EPI:
 - Environmentally persistent pharmaceutical pollutants (EPPP)
 - Adoption of one further issue of concern:
 - Highly hazardous pesticides (HHP)
- ▶ **ICCM5: Scheduled for October 2020**

The **overall objective** of SAICM is to minimize harm to human health and the environment by 2020 (see the box below). The OPS contains a list of 46 objectives, sorted into the five areas of:

- ▶ Risk reduction (10 objectives);
- ▶ Knowledge and information (10);
- ▶ Governance (14);
- ▶ Capacity-building and technical cooperation (9); and
- ▶ Illegal international traffic (3).

The GPA lists 299 activities and assigns responsibilities among stakeholders to implement these objectives. The original GPA developed in 2006 contained 270 activities, and ICCM3 in 2012

extended the list and added another 29 activities on nanotechnologies and manufactured nanomaterials and hazardous substances in electronic and electrical products. In addition, there are numerous cooperative actions on emerging policy issues, partnerships e.g. on lead in paint, and capacity development projects funded first by the Quick Start Programme and now by the Special Programme.

The 2020 goal

SAICM is linked to the overall objective 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.”** The 2020 goal was first agreed upon by heads of state and government at the World Summit on Sustainable Development (WSSD) in 2002, where it was part of para 23 of the Johannesburg Plan of Implementation (JPoI). It was then reiterated as the main objective of SAICM in the Overarching Policy Strategy in 2006.

In 2012, at the UN Conference on Sustainable Development (UNCSD, or Rio+20), delegates adopted the outcome document “The Future We Want”, including para 213 which contains the goal “to achieve by 2020 sound management of chemicals throughout their life cycle and of hazardous waste in ways that lead to minimization of significant adverse effects on human health and the environment.” Here, hazardous waste was added to the formulation, but as this task was not assigned to SAICM, this did not influence its mandate.

When the 2030 Agenda was adopted in 2015, it again picked up the issue of SMCW. It reiterates the 2020 goal, but makes some further changes to the original wording. Target 12.4 reads: “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.” In this formulation, “all wastes” are an extension from the more restrictive “hazardous waste” used in previous documents, and instead of minimizing “significant adverse effects”, the 2030 Agenda first calls on reduced releases of chemicals and all waste, and then to minimize “adverse impacts”. Again, the changes do not directly influence the mandate of SAICM. However, for a renewed mandate beyond 2020, these documents provide an important reference.

As a side note, Agenda 21 from 1992 included in Chapter 19, among others, the objective to “eliminate unacceptable or unreasonable risks” and “to reduce risks posed by toxic chemicals”. It also included the objective that by “the year 2000, national systems for environmentally sound management of chemicals, including legislation and provisions for implementation and enforcement, should be in place in all countries to the extent possible.” It is a matter of interpretation what “unacceptable or unreasonable risks” are, and how they compare to “significant adverse effects”. The goal to reduce, minimize, and eliminate risks of various degrees to human health and the environment, however, has been enshrined in the SMCW agenda for decades, and it will be a cornerstone of the beyond 2020 framework as well.

The ICCM **Bureau** consists of five governmental participants, which are elected at the end of each ICCM sessions, and stays in office until the end of the next ICCM.¹ It consists of a President, who chairs the ICCM, and four Vice-Presidents, one from each UN region. To mirror the multisectoral character of SAICM, the Rules of Procedure (RoP) entail in Rule 15 that four non-governmental participants and one representative from the Inter-Organization Programme for

¹ The Bureau was established based on Para 27 of the OPS, and its functions and processes are outlined in the Rules of Procedure, especially Rule 14, 15, and 18, while the role of the President is outlined in Rule 16 to 18.

the Sound Management of Chemicals (IOMC) shall be invited to the Bureau. The non-governmental representatives represent the health sector, industry, trade unions, and public interest groups, and are likewise elected at the end of each ICCM. Furthermore, five regional focal points, which assist the Bureau members from each respective region and play a coordinating and facilitating role in the region, likewise participate in Bureau meetings.

Each ICCM is prepared by a session of the **Open-Ended Working Group (OEWG)**, which is a subsidiary body to the Conference and tasked with preparing the upcoming session. The OEWG first met in Belgrade in November 2011 and the second time in Geneva in 2014. OEWG3 is scheduled for April 2019.

Regional cooperation takes place through regional meetings, and in each UN region there is usually at least one such meeting ahead of an ICCM. To facilitate regional coordination, a regional focal point is elected at each session who works together with the region's Bureau member. On the **national level**, national focal points are tasked with enhancing an integrated approach to chemicals management through fostering inter-ministerial cooperation and promoting multi-stakeholder collaboration.

The **Secretariat** is hosted by the UN Environment Programme in Geneva and integrated in the Chemicals and Health Branch of its Economy Division. Para 29 of the OPS outlines that both UNEP and the WHO “will take lead roles in the secretariat in their respective areas.” Although ICCM1 had decided that the secretariat was supposed to consist of six full time staff members, and ICCM2 extended this to eight, in reality the number of staff was much lower for most of the time, often only around 3 to 4 full-time equivalents (Nurick 2018). Until 2012, WHO had contributed one full-time post to the SAICM Secretariat, yet discontinued this arrangement in an attempt to cut administrative costs.

The **funding** structure for the SAICM secretariat consists of a mix of voluntary contributions by mostly governmental donors and resources provided by UN Environment and, at least in the first few years, WHO in the form of said staff. Overall, 16 countries provided funds for SAICM, yet only six of these accounted for about 80%.² The indicative budget is in a range between 1.5 and 3 million US\$ per year, depending on whether a major conference is taking place or not; however, the actual contributions tend to be much lower, in some cases less than 50% of what the ICCM previously agreed. The Quick Start Programme (QSP) for initial capacity building had its own Trust Fund, which received higher financial contributions totalling 47.6 million US\$, and a total of 88.5 million US\$ of non-Trust Fund cash and in-kind contributions, resulting in a total amount of 136.1 million US\$ (SAICM 2018b). The Trust Fund was closed for new contributions at ICCM4, implementing a decision already taken at ICCM3, but continued to disburse available money to running projects until they were completed as planned (SAICM 2017d). The Global Environment Facility (GEF) allocated 13 million US\$ both in the GEF6 programme from 2015 – 2018, and will provide the same amount during the GEF7 replenishment from 2019 – 2022. As it was clear that the QSP would be decommissioned, in 2014 the UN Environment Assembly decided in resolution 1/5 to establish the “Special Programme to support institutional strengthening at the national level for implementation of the Basel, Rotterdam and Stockholm Conventions, the Minamata Convention and the Strategic Approach to International Chemicals Management”. The Special Programme provides funds for activities for which no GEF funds can be acquired, and its Trust Fund had, by the end of 2017, received 17 million US\$ in donations, and approved applications from 17 projects totalling 5.1 million US\$ (SAICM 2018b). The Special

² For the period July 2012 to June 2015, the top governmental contributors are the European Union, USA, Sweden, Germany, Switzerland, and Norway; contributions from non-governmental stakeholders came from UNEP and the ICCA (SAICM 2015a).

Programme and other government-based funds are seen as contributions through the integrated approach to financing the sound management of chemicals and waste. The integrated approach was developed during a consultative process on financing options for chemicals and waste and welcomed by the UNEP Governing Council in 2013. It is based on three pillars: First, mainstreaming, which means to integrate chemicals management issues into national policies and budgets; second, industry involvement, which includes the internalization of costs related SMCW through the private sector based on existing laws and regulations; and third, external financing, which comprises national chemicals and waste units, and the establishment of an integrated chemicals and waste focal area within the GEF.

In order to prioritize among the extensive number of policy objectives and voluntary actions, an “overall orientation and guidance for achieving the 2020 goal of sound management of chemicals” (OOG) was prepared by the Secretariat in consultation with SAICM stakeholders ahead of and adopted at ICCM4 in 2015. The OOG entails a set of 11 basic elements and six core activity areas, which are considered as priority actions for implementing the OPS and enhancing SMCW.

The 11 basic elements of the OOG

- a) Legal frameworks that address the life cycle of chemicals and waste;
- b) Relevant enforcement and compliance mechanisms;
- c) Implementation of chemicals and waste-related multilateral environmental agreements, as well as health, labour and other relevant conventions and voluntary mechanisms;
- d) Strong institutional frameworks and coordination mechanisms among relevant stakeholders;
- e) 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;
- f) 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 corporate policies and practices;
- g) Inclusion of the sound management of chemicals and waste in national health, labour, social, environment and economic budgeting processes and development plans;
- h) Chemicals risk assessment and risk reduction through the use of best practices;
- i) Strengthened capacity to deal with chemicals accidents, including institutional-strengthening for poison centres;
- j) Monitoring and assessing the impacts of chemicals on health and the environment;
- k) Development and promotion of environmentally sound and safer alternatives.

The six core activity areas of the OOG

- a) Enhance the responsibility of stakeholders: promoting and reinforcing commitment and multisectoral engagement;

- b) Establish and strengthen national legislative and regulatory frameworks for chemicals and waste: improving capacity to address the basic elements of the sound management of chemicals and waste and encouraging regional cooperation;
- c) Mainstream the sound management of chemicals and waste in the sustainable development agenda: advancing risk reduction and enhancing the link between the sound management of chemicals and waste and health, labour, and social and economic development planning, processes and budgets;
- d) Increase risk reduction and information sharing efforts on emerging policy issues: continuing to promote actions on issues not currently addressed in existing agreements, complementing initiatives taken by other bodies;
- e) Promote information access: increasing the accessibility of relevant information and making it understandable for all levels of society;
- f) Assess progress towards the 2020 goal of minimizing the adverse effects of chemicals on human health and the environment: identifying achievements, understanding the gaps in implementation and prioritizing actions for achievement by 2020.

The OOG was an attempt at enhancing implementation through prioritising among the many objectives listed in the OPS and the manifold activities in the GPA. Such a step was necessary, as achieving the 2020 goal seemed increasingly difficult. In a draft paper published at the ICCM4, Persson et al. (2015) name two reasons for this: First, the goal itself is not sufficiently clear, including through the indicators used by SAICM, which makes it difficult to measure progress. Second, to the extent that progress could be measured, there was no robust evidence that the goal would be reached within time.

This was not the first time that the need for improvements to the existing system was identified. Tuncak and Ditz argued that the legally binding chemical conventions and the voluntary SAICM were “unlikely to fully protect human health and the environment from the risks of dangerous chemicals.” (Tuncak/Ditz 2013: 5) They identified two paths forward: First, amendments to the multilateral environmental agreements (MEAs) and SAICM; and second, a new legally binding framework. Another approach differentiated between a visionary and broad framework on the one side, or an actionable and specific platform on the other side (Persson et al. 2014).

The option of a legally binding framework convention to cover chemicals of concern has been discussed for almost 30 years (Krueger and Selin 2002). However, it has never had enough support among the international community to be realized. While a new framework convention on chemicals and waste is very unlikely to be negotiated in the foreseeable future, improvements to existing institutions are much needed to foster the SMCW.

1.2 The intersessional process on SAICM and the SMCW beyond 2020

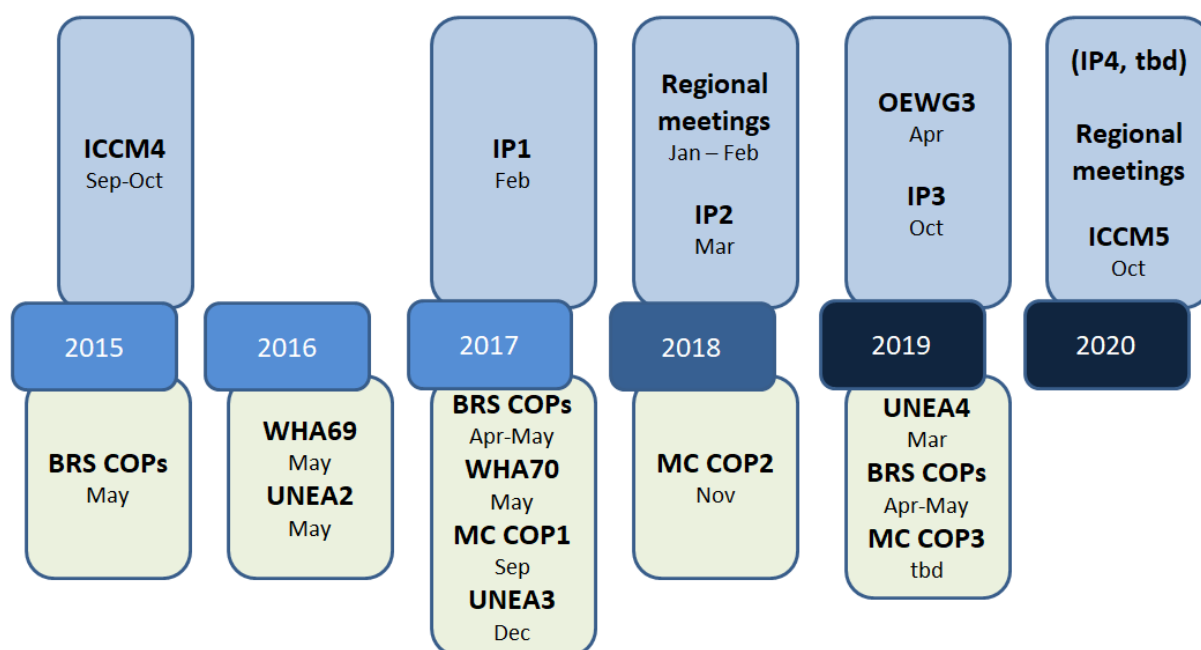
As 2020 is drawing closer and the target year of SAICM’s 2020 goal is approaching, an enhanced mandate for a beyond 2020 framework is needed. In combination with the mixed success of the Strategic Approach (see section 2), this opened a window of opportunity to rethink the governance architecture for the sound management of chemicals and waste (SMCW).

The begin of intergovernmental discussions about the future of chemicals and waste governance, including SAICM, can be traced back to the country-led process on “Strengthening the sound management of chemicals and waste in the long term”, whose outcomes were

acknowledged by the first UN Environment Assembly (UNEA1) in 2014 through resolution 1/5. While the resolution recognized “the continued relevance of the sound management of chemicals and waste beyond 2020”, the country-led process contained a vision statement and fundamental elements for achieving the vision, basic elements to be addressed and reinforcing measures. Resolution 1/5 and its annexes were important references during negotiations at ICCM4 about the process which should carve out a future framework.

At ICCM4, an intersessional process (IP) was initiated to develop recommendations for SAICM and the SMCW beyond 2020. ICCM Resolution IV/4 entails the mandate “to initiate an intersessional process to prepare recommendations regarding the Strategic Approach and the sound management of chemicals and waste beyond 2020”. Resolution IV/4 entails that the intersessional process should be open to all stakeholders, and that there should be at least three IP meetings: Two before the third meeting of the Open-Ended Working Group (OEWG3), and one after OEWG3 and ICCM5. There is the option of a fourth IP meeting, the decision on which rests with OEWG3. The IP will not take a decision on the future framework, but this decision will need to be made by delegates at ICCM5 in autumn 2020.

Figure 3: Timeline of the beyond 2020 process and selected relevant meetings on SMCW



Based on SAICM/IP.2/INF.1: Timetable for the intersessional process
 BRS COPs = Conferences of the Parties to the Basel, Rotterdam, and Stockholm Convention
 MC COP = Conference of the Parties to the Minamata Convention

The first meeting of the intersessional process (IP1) took place in February 2017 in Brasilia (Brazil). It was attended by 270 delegates, including 67 governments, 39 non-governmental representatives and 16 intergovernmental organisations (IISD 2017). At IP1, delegates elected Leticia Reis de Carvalho from Brazil and David Morin from Canada as co-chairs. The discussions in Brasilia were structured around five main topics:

- ▶ Vision and scope;
- ▶ Voluntary, multi-stakeholder and multisectoral approach;
- ▶ Responding to new and emerging issues;

- ▶ Financing implementation of the sound management of chemicals and waste;
- ▶ Linkages to the 2030 Agenda for Sustainable Development.

The first meeting was, in the words of observers from the International Institute for Sustainable Development, “primarily a brainstorming session.” (IISD 2017) Delegates touched upon many issues, and the debate brought forward many avenues for a future framework to take: Whether SAICM should be continued or replaced with a new framework; whether it should be significantly enhanced and strengthened or rather be based largely on the status quo; whether its goals should be bound to last until 2030, 2050, or be timeless; these and other elements were brought up, but not even brought close to a consensus position.

The co-chairs presented their initial summary of the outcomes of IP1 a few weeks after the meeting (SAICM 2017a). As the discussions among delegates had not taken a form that would allow the co-chairs to carve out the future framework in any more detail, and thus reflecting on the course of discussions, many elements were left rather vague. After consulting with stakeholders in the following months, the co-chairs were able to go one step further when they published an Overview Paper with the purpose to prepare for the second meeting (SAICM 2017b). However, it still mirrored – and had to do so – the diverging views among stakeholders, including on the level of ambition surrounding the reform, on the need for a science-policy interface, and especially on finance. A compilation document contains feedback from many stakeholders on the outcomes of IP1 (SAICM 2018e).

The second meeting of the intersessional process (IP2) took place in March 2018 in Stockholm. It was attended by 360 delegates, more than were at IP1, of which 68 were from governments, 51 represented non-governmental stakeholders, and 16 intergovernmental organizations (IISD 2018). The draft independent evaluation was made available ahead of IP2 and was often referred to in discussions.

The draft independent evaluation of SAICM 2006 – 2015

ICCM Resolution IV/4 mandated an independent evaluation of the Strategic Approach. The final draft report was published in March 2018. It contains an analysis of the strengths, weaknesses and gaps, and lessons learned. Some of the key findings include:

Strengths:

The Strategic Approach is unique in its ambition as an inclusive multi-stakeholder, multi-sector voluntary global policy framework on sound chemicals management. It has provided the space and opportunity for government and non-government actors alike, to discuss and deliberate on the management of chemicals throughout their life cycle in an atmosphere of trust and cooperation.

The nature of SAICM has enabled participation of non-government stakeholders in the decision-making bodies, allowing for their perspectives and priorities to be heard and considered as resolutions are framed and agreed.

The voluntary nature of SAICM has enabled government and non-government stakeholders alike to deliberate in a more inclusive and open manner, sharing ideas and perspectives that would have been more challenging or not possible under the existing governing bodies of the conventions or individual IOMC organizations.

Weaknesses and gaps:

Underlying many of the weaknesses of the SAICM process was the under-capacity of the SAICM Secretariat in delivering on its mandated functions. The implications of this under-capacity are no better evidenced than the inability to establish and make operational an information-clearing house (one of the mandated functions of the Secretariat).

Whilst the QSP was credited for significant progress made in establishing and strengthening national chemicals management governance, many countries remain to put in place basic legislation that would enable them to manage the risks of chemicals.

Whilst the identification of EPIs are generally regarded as a major success of SAICM, it is apparent that the degree of progress made was not uniform across the EPIs with no common means to measure progress.

The indicators of progress are necessary but are not sufficient for assessing the progress in achieving the 2020 goal.

Source: Nurick 2018

At IP2, delegates split into breakout groups, and they discussed five core areas under moderation from two co-hosts for each topic:

- ▶ Vision
- ▶ Policy principles
- ▶ Objectives and milestones
- ▶ Implementation (including national implementation; financing; and emerging policy issues)
- ▶ Governance (including stakeholder and sectoral engagement; enabling framework; and science-policy engagement)

The results from the discussion groups were consolidated by the co-hosts and published on the SAICM website.³ The final paper does not present consensus positions, as those were neither reached among delegates nor had they been aimed for at this stage. Rather, it presents a summary – to the extent possible – of aspects and elements mentioned during the discussions. As such, it pre-structures the outcome document, which will require much further negotiation and informal consultation among stakeholders, and which will ultimately have to be adopted at ICCM5 in 2020. A zero draft of the outcome document is expected to be published in late 2018, giving stakeholders sufficient time to assess it before the third meeting of the OEWG, which will take place on 2-4 April 2019 in Montevideo, Uruguay.

Additional impetus will come from the **High Ambition Alliance**, a group of governments and other stakeholders forged under the leadership of the Swedish government. The Alliance was officially launched at the High-level Political Forum on Sustainable Development (HLPF) in New York in July 2018, following informal meetings that had taken place at the IP2 meeting in Stockholm. Sweden and Uruguay are co-chairs of the Alliance, which is open to all interested parties which share the goal of an ambitious outcome.

3

<http://saicm.org/Portals/12/documents/meetings/IP2/Final%20Cohost%20consolidated%20document%20830.docx>

A valuable asset is the number and diversity of stakeholders already engaged in SAICM, and the potential they are holding through their views and perspectives when it comes to elaborating upon a beyond 2020 framework. Government officials, business representatives, civil society activists and researchers are jointly discussing the future governance architecture on chemicals and waste. This multi-stakeholder set-up holds, at least in theory, a strong potential for a creative, progressive and pragmatic reform – assuming the level of engagement becomes sufficiently high, and the need to enhance the Strategic Approach and the SMCW beyond 2020 becomes a shared vision among the most relevant stakeholders. How this might turn out institutionally is not yet clear; SAICM could be strengthened but retain its current form, or it could be replaced by a successor framework building on but enhancing core elements of the Strategic Approach.

The sharing of ideas about a new framework is critical at this stage. Academics and other stakeholders who are providing their insights hold particular value and opportunities for the intersessional process. For example, Urho (2018) developed a proposal building on time-bound objectives, a national action plan mechanism, reporting, review and monitoring, and a mechanism for scientific support. Honkonen/Khan (2017) published an analysis of SAICM and outlined a range of options for a beyond 2020 framework. IPEN (2017) is actively engaged in the intersessional process and in other chemicals-related forums, and published detailed accounts on how to enhance the design of the governance architecture from a civil society perspective. Other sectors and stakeholder groups have been less forthcoming so far, but there is material for use in formal and informal settings, and on which to build an enhanced concept.

2 SWOT analysis of the Strategic Approach

To identify necessary areas of reform and to be able to formulate how these could be addressed, the project team undertook a SWOT analysis, outlining the strengths and weaknesses of, as well as the opportunities for and threats to SAICM and its reform. The strengths and weaknesses refer to internal characteristics and the performance of SAICM itself, whereas the opportunities and threats refer to the possible outcomes of the reform process.

The following analysis does not represent an exhaustive evaluation of the Strategic Approach, which is undertaken elsewhere (Nurick 2018), but strives to cover the essential elements which are relevant for the intersessional process and the beyond 2020 framework. It builds on an internal assessment conducted by the project team, on input given at a workshop in Brussels in 2015 which was attended by governmental representatives of EU member states, on findings from a series of interviews (Simon 2017), on the interim report of the independent evaluation of SAICM (Nurick 2018), and on other sources from the literature (e.g. Tuncak/Ditz 2013; Honkonen/Khan 2017; Urho 2018).

2.1 Strengths

Among the most pronounced strengths of SAICM is its multi-stakeholder and multisectoral approach, based on the recognition that an integrated approach is required to deal with the cross-cutting challenges of SMCW. There is strong consensus among SAICM stakeholders that the multi-stakeholder and multisectoral character is a key strength of SAICM and needs to be retained (Nurick 2018; IISD 2017; Simon 2017). There are few UN institutions in which participation is as far-reaching as in SAICM and the ICCM, and the Strategic Approach did set a model when it was established in 2006. Non-governmental stakeholders are participating in Bureau meetings, participate in ICCM decision-making, they are actively involved in identifying new emerging policy issues and in implementing related projects on the ground. Especially environmental NGOs and NGO network organizations such as IPEN, the Pesticide Action Network (PAN) or Women Engaged for a Common Future (WECF) are usually well-prepared and, in the case of IPEN, publish detailed positions ahead of relevant meetings (IPEN 2018; 2017). On the side of the private sector, the International Council of Chemical Associations (ICCA) is represented in the Bureau, participates in ICCM meetings and also has a role in related forums and activities, while sector-specific industry associations are participating e.g. in the Chemicals in Products programme.

Intergovernmental organizations are likewise actively participating in SAICM and coordinate with each other through the Inter-Organization Programme for the Sound Management of Chemicals (IOMC), which was established in 1995 (Van der Kolk 2012). The IOMC supports the implementation of SAICM through the respective work programs of the participating organisations, and they coordinate at joint meetings twice per year. Apart from UN Environment, which hosts the secretariats of SAICM as well as the joint secretariat of the BRS Conventions, other organizations are also actively engaged. For example, the World Health Assembly (WHA) has adopted a Chemicals Road Map at its 70th Session in May 2017. The road map is intended to enhance health sector engagement in SAICM, both towards and beyond 2020. An accompanying Workbook assists countries in prioritizing and planning related actions. During the first few years after its inception, WHO contributed a staff member to the SAICM secretariat, which it withdrew in 2012 due to funding issues.

The voluntary character of SAICM has made especially the ICCM an open forum in which many diverse issues and views are exchanged. SAICM requires that stakeholders implement activities, and it provides a platform to agree on common priorities. That SAICM is non-legally binding can

even be seen as a condition for the far-reaching participation especially by non-governmental stakeholders. New challenges, different perspectives as well as proposals for solutions can be openly discussed and new forms of cooperation can be developed and agreed on. The difference becomes all the more visible when it is compared to the joint Conferences of the Parties (COPs) of the BRS Conventions, where different political positions are preventing clear recommendations from scientific bodies to regulate hazardous substances.

SAICM is in principle open to discussing and dealing with a broad range of chemicals. It has a process for identifying and addressing existing and upcoming challenges, the EPIs and other issues of concern (Perrez/Karlaganis 2012). In theory, this does provide the Strategic Approach with a pivotal role in developing global chemicals governance further, and offers an entry point for stakeholders to bring new issues to the attention of policy makers. Both governmental and non-governmental stakeholders have in the past proposed new EPIs to be added, and prepared the necessary documentation. There is a clear procedure for proposing new EPIs and thus to extend the work programme of SAICM and its stakeholders, and it must be based on scientific evidence about the chemicals supposed to be addressed.

The Strategic Approach also offered initial funding for capacity building through the Quick Start Programme (QSP), which was considered effective for developing capacities on the national level, e.g. establishing domestic multi-stakeholder coordination mechanism, yet also for implementing projects on the ground. Today, funding is provided through the Special Program, which offers funds from 50,000 to 250,000 US\$, and under exceptional circumstances the upper limit can be extended to a maximum of 500,000 US\$.

The Quick Start Programme, as described by the SAICM Secretariat

“Established in 2006 by the first International Conference on Chemicals Management, the QSP was developed to “support initial enabling capacity-building and implementation activities in developing countries, least developed countries, small island developing states and countries with economies in transition.”

Administered by the SAICM secretariat, the QSP includes a trust fund within the United Nations Environment Programme (UNEP) and multilateral, bilateral and other forms of cooperation. Governments, regional economic integration organizations, intergovernmental organizations, and the private sector, including industry, foundations, non-governmental organizations and other stakeholders, contribute to the QSP.

With 145 approved projects in over 100 countries, the QSP has been widely recognized as being accessible and flexible, and it is seen as a practical vehicle for quick project implementation.”

Source: SAICM: The Quick Start Programme. <http://www.saicm.org/Portals/12/Documents/QSP/Quick%20Start%20Programme%20Brochure.pdf>

2.2 Weaknesses

The multi-stakeholder and multi-sectoral composition of SAICM is a significant strength, yet it has its weaknesses. The SAICM community is most strongly represented by the environmental sector and to a lesser extent by the health sector, whereas participation of the agricultural sector is considerably weaker, and the labour sector is barely noticeable. At the national level, where national focal points are tasked with SAICM implementation, 80% of these are placed in the environment ministries (Nurick 2018: 62). On the side of the private sector, while the chemicals industry is actively participating in the SAICM process and in ICCM meetings, downstream users of chemicals are involved to a much lesser extent or not at all. For example, associations from the car, toy, electronic products and textile sector are engaged in the Chemicals in Products

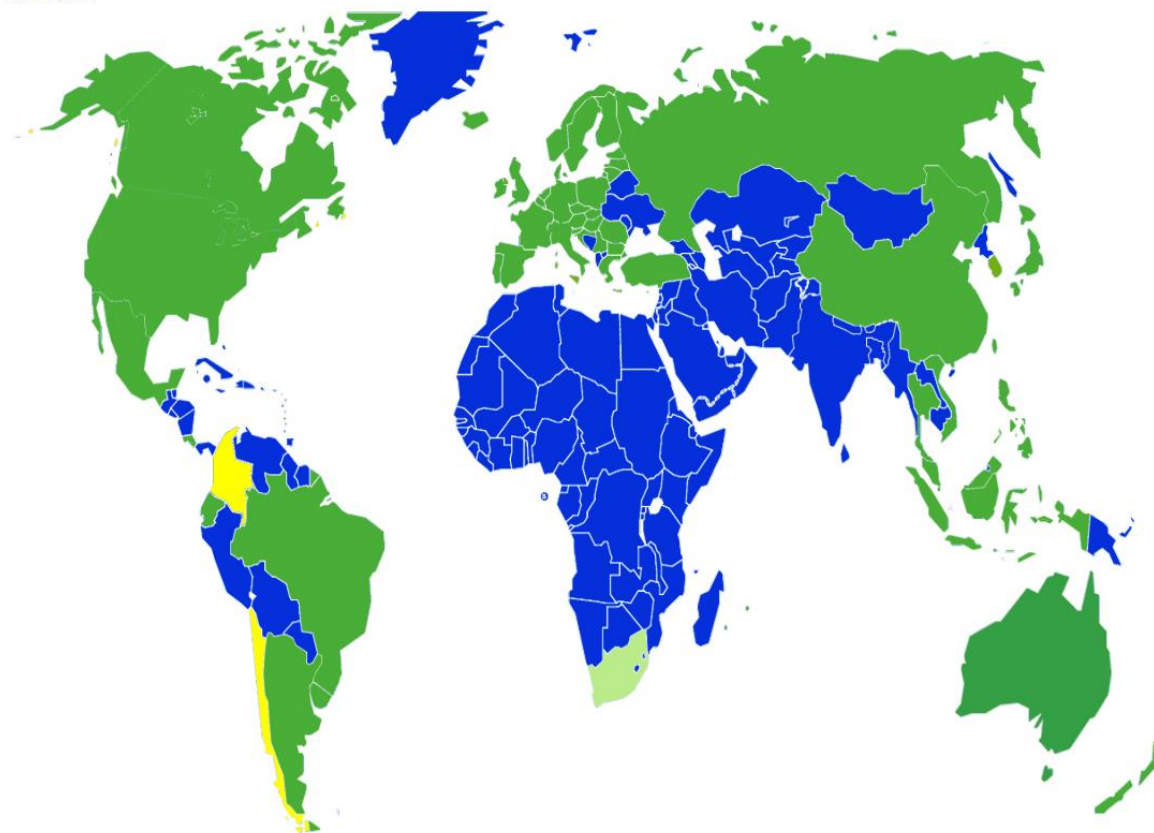
programme, but the opportunities with enhancing the linkages between the chemical industry and downstream manufacturers as well as between environmental NGOs and consumer protection organisations have not been tapped into.

SAICM has also not been able to fill in a truly overarching and strategic role. Comparing the list of emerging policy issues and other issues of concern under SAICM and the list put forward by Pure Earth on “The World’s Worst Pollution Problems“, it becomes apparent that SAICM does not address the most damaging issues in terms of human health or environmental degradation. When establishing there is scientific evidence provided in application dossiers for including an issue under SAICM, but this does not entail a discussion that would pit this issue against other issues which may be much more detrimental. For every new emerging policy issue, the relevance and scientific credibility of the issue at hand was elaborated, but never has the ICCM taken a broader perspective and assessed whether the six EPIs and two more issues of concern does amount to a strategically chosen set of activities. Rather, the EPIs represent issues for which some “champions” provided the necessary impetus and resources, but they are not representative of the most pressing and most hazardous chemicals-related risks. SAICM has furthermore not been able to establish itself as a forum in which all stakeholders decide jointly on the course of global chemicals governance, and to carry this decision towards other forums so that an integrated governance approach could have emerged. In short: The Strategic Approach is not very strategic.

The fact that SAICM isn’t legally binding is not a weakness per se, but stakeholders are struggling to establish politically or socially binding elements in the Strategic Approach – soft rules which would contribute to SMCW. For example, the voluntary Globally Harmonized System of Classification and Labelling of Chemicals would represent an important tool for disseminating and communicating information on hazardous properties of chemicals, harmonizing international trade and helping in educating workers to protect themselves from hazardous chemicals. Development of the GHS already started in 1992 at the UN Conference on Environment and Development, and it was finished in 2002. All countries endorsed the implementation by 2008, however, by 2017 only 50 countries had fully done so, 15 had implemented it partially, and 128 have not proceeded with implementation (Persson et al. 2017). The adoption rate varies strongly across regions. While WEOG countries have a high degree of implementing members, in Latin America and Asia-Pacific a minority of countries have turned GHS into national law, including China, Russia, Brazil, and Argentina, whereas in Africa there is only one country, South Africa, which has adopted GHS only as a voluntary instrument. As legally binding norms are off the table for SAICM both now and beyond 2020, voluntary standards and codes of conduct might be a way forward, but stakeholders need to find more effective ways of spreading instruments such as GHS.

Figure 4: Map of GHS implementation

■ : Countries/regions that have already implemented GHS. ■ : Countries/regions where GHS is voluntary.
■ : Countries/regions that are in the process of implementing GHS. ■ : Countries/regions where GHS is not implemented or not available.



Source: DHI Group, <http://ghs.dhigroup.com/GHSImplementationMap.aspx>, last updated on 12 February 2018. Reprinted with friendly permission.

ICCM2 agreed on a system for progress reporting and established a list of 20 indicators in 2009. However, the system has serious shortcomings (Simon/Schulte 2018). It refers to only vaguely defined policies or programs, and merely counts the number of countries implementing them, without measuring at all the quality or degree of implementation. Furthermore, the system does not contain any indicator about the level of chemical pollution in humans or in the environment. As evidence increases that chemical pollution is taking a heavy toll on human health, this is especially worrying (Landrigan et al. 2018; WHO 2016). Other authors have found comparable issues, highlighting that “no mechanism exists to comprehensively assess progress or to identify emerging problems and bring them to the attention of governments.” (Honkonen/Khan 2017: 55) When it comes to reporting, governmental stakeholders have a relatively low motivation to report to the SAICM Secretariat, and thus to the ICCM and their peers. Only 43% of governments reported about their activities and progress in implementing SAICM for the period 2011 – 2013. While countries from the Western Europe and Others Group (WEOG) have a relatively high rate of reporting, the situation is bleaker among developing countries, and only 10 out of 54 African countries handed in a report for that period (SAICM 2015b). Preliminary figures on the 2014 – 2016 progress report are discouraging; at the beginning of 2018 there was only one submission from Africa, two from Asia-Pacific and four from Latin-America and the Caribbean (SAICM 2018a).

Funding is a key weakness of SAICM. The level of funding for SAICM, its Secretariat and implementation activities is very low. With an actual annual budget of 1.5 – 2 million US\$, the options of the Secretariat are very limited. The QSP Trust Fund received on average less than 5

million US\$ per year, including cash contributions and additional contributions leveraged by project implementation partners. Non-Trust Fund contributions were higher at an average of 7.4 million US\$ per year, counting both cash and in-kind contributions. An additional 3.25 million US\$ per year has been made available for SAICM through the Global Environment Facility (GEF). Even if the piecemeal funds are taken together, the possibilities remain very limited, and overall funding stands at about US\$ 15 million per year. This becomes all the more worrying when it is compared to the on-going dynamic of the global chemical sector and the expected doubling in chemical production by 2035 the latest (Roland Berger 2015). As the Global Chemicals Outlook noted, “limited operational financing and the absence of any legally binding authority have slowed the capacity of SAICM to reach the WSSD goals.” (UNEP 2913: 218) In the same vein, the draft independent evaluation concluded that the under-capacity of the SAICM Secretariat due to funding shortages was one of the underlying reasons for insufficient activities to pursue the 2020 goal (Nurick 2018: 62). With the decision to end the QSP and rely on the Special Programme instead, the ability of non-governmental stakeholders to initiate and implement projects has ceased. The Special Programme can only be accessed by governmental stakeholders, and it is up to them whether and how they include non-governmental partners.

2.3 Opportunities

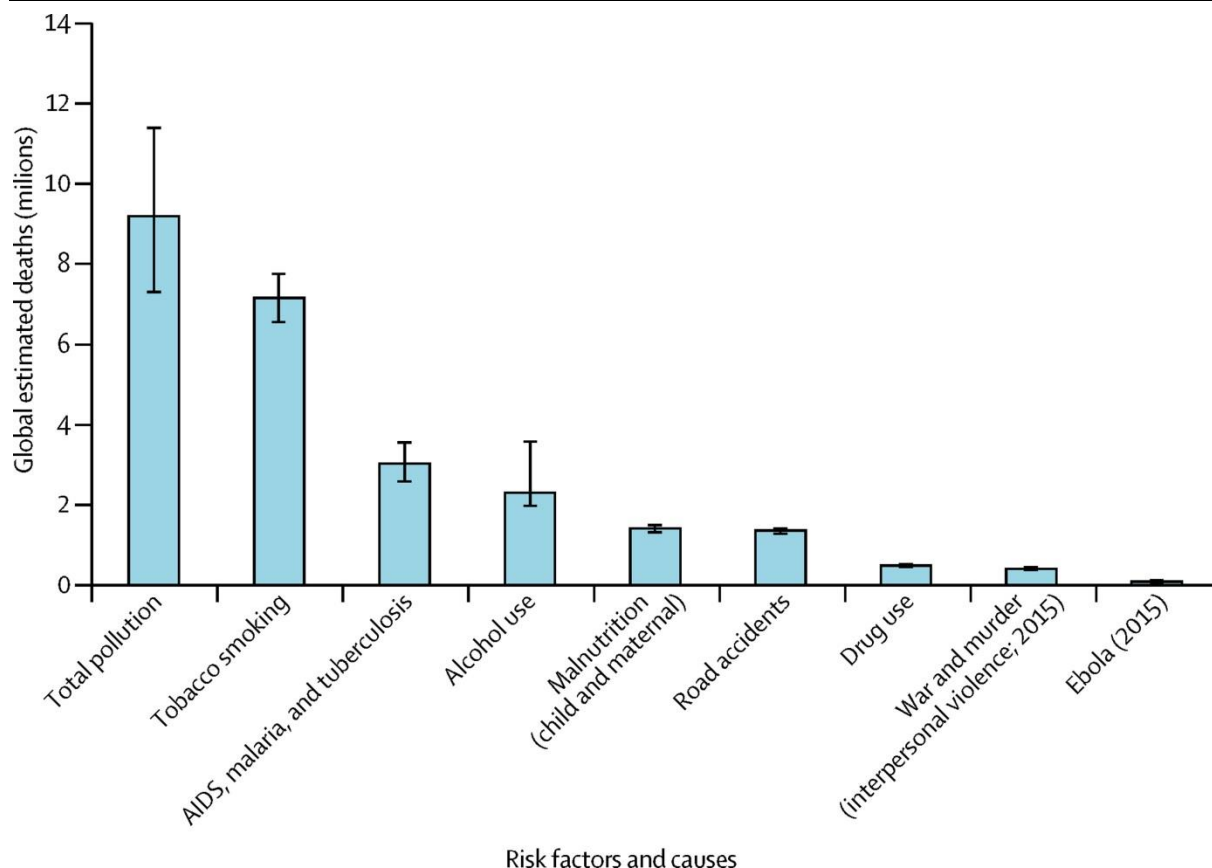
While the specific opportunities connected with an enhanced governance framework will be outlined in chapter 3 below, this section focuses on external factors which present themselves as opportunities for the beyond 2020 process.

One opportunity lies in the 2030 Agenda, which is centrally linked with chemicals. SMCW is an essential enabling condition for many of the SDGs, and the benefits from using chemicals are a vital and sometimes even indispensable ingredient in advancing sustainable development (UNDP 2015; Zhou and Reimov 2018). Pointing out the sometimes hidden linkages between SMCW and the SDGs in various forums, including at the High-Level Political Forum on Sustainable Development, could contribute to increased awareness and convince additional stakeholders from various sectors to become engaged in SAICM and the beyond 2020 process. In the long run, these stakeholders could take that knowledge home to address their own chemicals-related issues in a more focused way.

Another opportunity lies in the increasing attention for chemicals-related concerns in sectors with strong growth, including textiles, agriculture (and pesticides), plastics, or pharmaceuticals. These concerns could lead to a possibly increasing attention towards the growing chemical production, use, and associated chemical intensification of global economies. As production volumes almost double by 2030, and the economic importance of the chemical industry become increasingly visible throughout many sectors, this could generate much-needed attention to questions about the global governance of chemicals and hazardous waste.

A significant opportunity lays in the increasing public attention for pollution-related issues over the past few years, some of which are specifically linked with chemicals. International environmental governance has already picked up on this emerging challenge, and UNEA3 in December 2017 was held under to theme “Towards a Pollution-free Planet.” As noted above, pollution is nowadays established as a major cause of death, and while air and water pollution are responsible for the highest death toll (Landrigan et al. 2018), there is not enough robust data to provide a sound estimate for the impact of chemical pollution (WHO 2016). The beyond 2020 process offers the opportunity to address preventive measures in the SMCW, such as circularity and sustainable chemistry.

Figure 5: Global estimated deaths due to risk factors and causes



Source: Landrigan et al. 2018.

If future scientific assessments could better quantify the causality between chemical exposure and mortality, this would put efforts to address the causes on the spotlight. A particular opportunity lies in enhanced quantifications of the costs of inaction on chemical pollution, and the associated benefits of action.

A key factor affecting the level of attention is the matter of framing and the development of a convincing narrative. How issues are labelled and communicated can have decisive influence over the way they are being perceived and, ultimately, addressed (Lakoff 2014). Frames are emotionally charged terms or phrases, and particularly intensively used in political debates and campaigning. They are at the heart of the narrative(s) used to tell the story of chemicals, toxic pollution, and sound chemicals and waste management. So far, chemicals issues have, for the most time, not been framed in a way as to become a high-level priority or spark large-scale public debate. To some extent, this has to do with gaps in the knowledge base. For example, there are large uncertainties about the health impacts of many chemicals, and no robust assessment of the overall costs of inaction. Enhancing the knowledge base to better communicate the impacts of unsound chemicals management would be an important element in increasing attention. Yet there is probably not one framing and not one narrative that would encompass the entirety of potentially hazardous chemicals, such as is the case with global warming which is caused by increasing emissions of greenhouse gases (GHGs). Chemicals are used in many diverse areas, have different and sometimes even contradicting effects, and there is no uniform unit for measuring chemical pollution or its impact. There is still an untapped opportunity in carving out in more detail the role and relevance of chemicals, and highlighting the magnitude of negative impacts. That way, a stronger case for action on these issues can be

made, and at the same time the need for coordinated and collaborative action can be outlined, for which a stronger beyond 2020 framework could provide the basis.

Further opportunities lie in addressing groups of substances rather than individual chemicals, maybe apart from high-impact ones such as lead or cadmium, and focus on the services chemicals provide rather than on the chemicals themselves. Issues with strong links to chemicals are already discussed in a prominent manner. Some examples are mentioned above, including the pharmaceutical sector, textiles, agriculture, and plastic. If stakeholders are looking for opportunities to raise the relevance and visibility of the Strategic Approach beyond 2020, these (and probably some further) issues could represent promising avenues, especially as the linkages are obviously there

2.4 Threats

The reform process is not guaranteed to result in a significantly improved framework, let alone one which will be able to successfully deal with present and upcoming chemicals-related challenges. On the contrary, the first two meetings of the intersessional process have shown a relatively modest ambition of many SAICM stakeholders. Stakeholders largely refrained from rethinking the Strategic Approach on a scale necessary to create a framework which is broad and flexible enough to address evolving and dynamic challenges, and to give the reform process the priority it needs if the beyond 2020 framework is intended to become an overarching strategic planning and implementation platform.

Another significant risk lies in a reform outcome that does not remedy the key shortcoming of SAICM and further reduces the expectations from relevant stakeholders towards the beyond 2020 framework. In this case, the Strategic Approach would risk degrading into a hardly relevant forum which discusses the minimization of harm from chemical pollution but would not be able to facilitate decisive action, while at the same time global economies become more chemically intensive and human health and ecosystems are impaired from increasing releases of hazardous substances.

A considerable threat is the continuous lack of funds. There is reluctance among most donors, which became visible during IP1 and IP2, to significantly increase the funds for SAICM. It is not even certain whether the present level of funding will be maintained beyond 2020. While the integrated approach to financing was often mentioned at IP1 and IP2 with its three pillars of mainstreaming, industry involvement, and external financing (SASICM 2018b), the critical pillar was and will remain to be governmental contributions. Yet little or no willingness on the side of developed countries to provide sufficient funds risks a deteriorating relevance of the beyond 2020 framework and impairs its ability to achieve its mission. These threats not only pertain to the amount of funding, but also to the structure of the funding system. Like the QSP, the Special Programme is time-bound for a period of seven years after it was established (though funds can be disbursed for up to 10 years), with the option to prolong it once for no more than five years (again with three more years for disbursing funds). This means it will be operational until August 2022 and can fund projects until August 2025, with a possible extension to receive contributions until 2027, and by 2030 the last funds will have to be spent. For a beyond 2020 framework that is supposed to last at least until 2030 and possibly be timeless, this is a very short period. Furthermore, the extension of the Special Programme is contingent on a successful evaluation, and the decision to extend it rests with UNEA. Such a decision will have to be taken at UNEA5 in 2021, meaning that it will come after ICCM5. This means that the beyond 2020 framework will have to be agreed on without anyone knowing whether the Special Programme will continue to be open to receive funds for more than two years. This is a highly volatile

situation, and if no more permanent and satisfactory solution can be found, this will mean on-going disputation among stakeholders.

One of the contentious issues regarding the scope of SAICM is the question whether to include waste-related issues into its mandate (see also section 3.3 below). While the future scope is otherwise uncontroversial, this discussion does involve some threats. The intersessional process could lead to a situation where some aspects of some waste issues might be included in the mandate of the beyond 2020 framework, or it might decide to take up the wording in SDG 12.4 of the 2030 Agenda and have SAICM deal with “all waste” instead of only chemicals-associated waste. However, probably the only thing worse than an unclear and disputed mandate is an overblown mandate in combination with an utter lack of funds for its implementation.

A related risk lies in the further strengthening of climate change and, to a lesser extent, biodiversity loss as key concerns about the global environment. These two issue areas would continue to dominate public debate, political agendas, and in turn the available funds for addressing chemical pollution. Related to this is the risk that new issues, possibly even chemical-related ones, are taking a more center stage and are going to be addressed more forcefully. Plastic pollution is an issue that has the potential to become very prominent, and has indeed already become a highly visible issue, yet which has thus far no direct links with SAICM. Beyond the environmental realm, comparable risks prevail, for example the focus on health effects of climate change and air pollution, which makes it difficult to attract attention to the negative effects of chemical pollution. It could also be the case that in areas such as agriculture, the need to increase production for a growing world population with increasingly resource-intensive diets becomes so important that concerns about the increasing use of agrochemicals such as pesticides and fertilizers are easily disregarded.

Table 3: SWOT analysis of SAICM

Strengths	Weaknesses	Opportunities	Threats
Voluntary; open forum; facilitates exchange on various issues which might be too contentious for a legally binding platform	Lack of politically binding elements; insufficient “soft” power to induce interest and commitment	Increasing global chemical production and chemical intensification could lead to growing awareness by policy makers and in the general public	Developments in the chemical sector further outgrow the capacity of SAICM to address challenges; deteriorates into talk shop
Multi-stakeholder participation; governments and non-governmental stakeholders are actively engaged	Lack of involvement by downstream chemical users, other non-governmental actors including consumer protection organisations, and the scientific community	The increased profile of pollution as a critical issue to be dealt with could be used to frame chemical pollution as an important aspect of this wider challenge, and so both further enhance the issue of pollution and gain from its upgraded salience	Stakeholders consider other existing forums or approaches more relevant or otherwise preferable, e.g. NGOs continue to campaign around single-issue or single-product chemical problems, rather than about broader chemical pollution challenges
Multi-sectoral composition; strong participation by the environmental sector	Imbalanced representation, limited engagement by some sectors (e.g. labour)	Better quantification of the link between chemical pollution and disease as well as detailed assessments on	Actors engaged in platforms embedded in other sectors (e.g. agriculture) consider SAICM less relevant and

Strengths	Weaknesses	Opportunities	Threats
		the costs of inaction could provide a stronger case for action, including through the beyond 2020 framework	remain absent; increasing profile of SAICM could lead to opposition, e.g. among UN system organisations
Ability to cover all chemicals unless already addressed by other institutions or organisations	Insufficient indicator system does not allow to measure progress on the ground; lack of any indicator for chemical pollution levels	A number of chemicals-related issues gain considerable public attention, including plastic pollution, textiles, and pesticides, which could be utilized through amendments to the SAICM mandate	Follow-up system of objectives and targets could fail to include relevant stakeholders, or be only partially measurable and thus impair follow-up
Addresses new and upcoming challenges; established a set of six emerging policy issues and two other issues of concern	Set of EPIs and other issues of concern lacks prioritization; insufficient means of implementation	EPIs can be used as elements of an encompassing narrative to increase attention towards SMCW	Stakeholders insist on retaining all EPIs, fail to prioritize activities and overstretch the capacities of SAICM
Scientific knowledge essential in decision making, e.g. for establishing new EPIs	No mechanism for broad scientific assessments; SAICM has not become a platform for fostering research and conducting assessments; involvement of academic community could be stronger	Quantifying the costs of inaction in a more robust way can help to establish a stronger cause of action on SMCW	Lack of funds and vested interests in existing intergovernmental organisations leave no space for a further assessment body
Some funding available for implementation projects by stakeholders, first under QSP and now under the Special Programme; additional funds to be disbursed by the GEF	Low level of funding; SP only eligible to governments; time horizon of the SP is limited		Funding may remain, and become a worse, source of disputes among stakeholders; low level of readiness to fund SMCW may counter any claims about the large-scale impacts and challenges of chemical pollution

3 Enhancing global chemicals and waste governance: Elements of a new framework

This chapter contains core elements of a beyond 2020 framework and outlines how these elements could be designed in order to enhance SMCW. The general structure is modelled after comparable international frameworks, and developed here in light of the draft proposals by the co-chairs of the beyond 2020 process as well as published comments by other stakeholders.⁴ The content reflects the debates with and among SAICM stakeholders as well as the state of play in the intersessional process.

There is strong support among SAICM stakeholders for retaining the voluntary character of SAICM in a beyond 2020 framework, and approval of the multi-stakeholder and multisectoral approach. During a series of interviews with almost 40 stakeholders conducted in 2015 and 2016, there was none who questioned the benefits of a multi-stakeholder and multisectoral platform (Simon 2017). This finding was corroborated by the draft independent evaluation (Nurick 2018). Most interviewees also noted the benefits of a voluntary approach, which enables open discussion, supports trust-building and assists in the development of cooperation among diverse stakeholders. However, some stakeholders, most notably from non-governmental organizations, openly favoured a more binding approach, possibly even a legally binding framework. But whether they preferred the voluntary or a more binding approach, all agreed that for the foreseeable future, the most likely outcome is a legally non-binding framework. These essentials are therefore not put into question here.

The structure of the following elaboration on options is oriented alongside existing frameworks and entails elements which can be found, among others, in biodiversity governance, in the governance on land degradation and desertification, and in waste governance (see Table 4). Most frameworks or strategic plans formulate a vision, outlining the long-term goal, and sometimes develop a mission, containing the general task to be pursued in order to achieve the vision. Another common element is a set of goals and targets, which formulates specific deliverables within typically 15-25 areas. Implementation measures such as funding, national action plans, international support or otherwise are also often contained in these plans. Last but not least, review and follow-up mechanisms are established in order to assess progress on the achievement of the individual goals and targets, and of the mission and vision. It also takes into account the Co-Chairs' Overview Paper (SAICM 2017b) and the structure used for IP2 in March 2018.

Table 4: Structure of selected strategic plans and frameworks

Strategic Plan for Biodiversity 2011-2020	Strategic framework for the implementation of the Basel Convention for 2012-2021	UNCCD 2018-2030 Strategic Framework	United Nations strategic plan for forests 2017-2030
I. The Rationale for the Plan	I. Vision	I. Introduction	I. Introduction (includes A. Vision and mission)

⁴ Stakeholders' inputs the the intersessional process on SAICM and the sound management of chemicals and waste beyond 2020, <http://saicm.org/Beyond2020/IntersessionalProcess/Stakeholdersinputs/tabid/6098/language/en-US/Default.aspx>

Strategic Plan for Biodiversity 2011-2020	Strategic framework for the implementation of the Basel Convention for 2012–2021	UNCCD 2018–2030 Strategic Framework	United Nations strategic plan for forests 2017–2030
II. Vision	II. Guiding Principles	I. Vision	II. Global forest goals and targets
III. The Mission of the Strategic Plan	III. Strategic Goals and Objectives	III. Strategic objectives and expected impacts	III. Implementation framework
IV. Strategic Goals and the Aichi Biodiversity Targets	IV. Means of Implementations	IV. Implementation framework	IV. Review framework
V. Implementation, Monitoring, Review and Evaluation	V. Indicators for measuring achievement and performance	V. Monitoring, reporting and evaluation	V. Communication and outreach strategy
VI. Support Mechanisms	VI. Evaluation		

The following sections discuss the vision; principles; scope; governance; strategic objectives and measurable targets; national implementation; review and follow-up; and financing of the beyond 2020 framework.

3.1 Vision

When SAICM was established, it was not equipped with a clear vision. Closest to articulating a vision is the 2020 goal, SAICM’s overarching objective 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.” This goal is time-bound and open to qualification, as it is not clear what “significant” adverse effects are net to tolerable or acceptable effects, and while production and use are mentioned, this does not cover the entire life-cycle including the design and waste phase.

One source which does provide text for a possible updated vision is the outcome of the country-led consultative process on the challenges to and options for further enhancing cooperation and coordination within the chemicals and wastes cluster in the long term. It is contained in Annex I of UNEA resolution 1/5 from 2014. This text adds prevention as well as the life-cycle of chemicals and hazardous waste and the three dimensions of sustainable development, thus going a step further than the 2020 goal.

Vision as formulated in the outcome of the country-led consultative process

To achieve the sound management of chemicals throughout their life cycle and of hazardous wastes in ways that lead to the prevention or minimization of significant adverse effects on human health and the environment, as an essential contribution to the three dimensions of sustainable development.

Although more encompassing, this text is rather long and difficult to communicate. Building on input from the stakeholders, the Co-Chairs' Overview Paper rightly contains the notion that the vision "should be aspirational and long-term", and that it would "benefit from a simple and direct narrative to promote a healthier world for all, facilitate communication and increase public and political awareness." (SAICM 2017b) UNEA resolution 1/5 does not provide this. Likewise, the proposals handed in by most stakeholders, including the EU and its member states, are not yet concise and clear enough (EU 2017).

During the IP2 meeting in March 2018, delegates discussed in five rounds possible elements and formulations of a renewed vision. In their summary of the discussions, the co-hosts presented no less than 13 proposals for a vision message, and 11 ideas which are supposed to explain in more detail what the expected achievement is. According to the co-hosts, the following formulation appeared to find most support among delegates, although it still contains brackets:

Draft elements of a vision for SAICM and SMCW beyond 2020 following IP2

Wording of a vision that received the most support from groups:

Healthy [environment] [planet], healthy people!

[United] [Working together] [committed] to prevent [reduce] [against] harm from chemicals and waste [throughout their life-cycle]*

* (needs scoping)

Source: SAICM 2018f.

It is noteworthy that the connection between the environment and health which is stressed here mirrors the two most active sectors in SAICM, although the vision message in its brief form does lack any hint about the role of chemicals. The longer statement focuses at first on the multi-stakeholder engagement within the Strategic Approach, stressing that only through cooperation can the challenges of chemical pollution be addressed. Secondly, it brings to the forefront the actual goal: Preventing, reducing or being committed against harm from chemicals and waste. The three versions range from the strongest (preventing) to the weakest goal (committed against). As the 2020 goal already calls to minimize significant adverse effects, which allows the interpretation that non-significant adverse effects are tolerable, merely stating that one is committed against harm from chemicals and waste would significantly weaken the existing formulation. Reducing harm is a very laudable goal, however, the degree of reduction is left open, and so this formulation could likewise be interpreted as a weakening of existing commitments. Only "prevent harm" would establish a strengthened core vision.

The co-chairs drafted their own version of a mission, which was published alongside other documents for the Bureau meeting in June 2018 in Bonn, Germany. It reads as follows:

Draft vision by the co-chairs of the intersessional process (June 2018)

Working together to prevent and reduce harm from chemicals and waste throughout their life-cycle.

Source: SAICM 2018c.

In this version, both the cooperative function of SAICM and the main scope are mentioned as the central elements. This vision is a significant improvement over the lengthy formulation annexed to UNEA Resolution 1/5, which is very hard to communicate. As a compromise proposal, it might

have a good chance to be adopted largely as it is. Nevertheless, “working together” is not a very strong start for a vision, yet rather reads as part of the mission. Secondly, “prevent and reduce harm” is not formulated as strong as it could be; “prevent and minimize” would signal a higher level of ambition. As the UN Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes notes: “The best interests of the child are best served by preventing exposure to toxic chemicals and pollution, and taking precautionary measures with respect to those substances whose risks are not well understood.” (Human Rights Council 2016: 7) As only the elimination of toxic pollution can ensure the prevention of exposure, here a more far-ranging vision is articulated. It is accompanied by a mission which outlines how the vision can be achieved.

Proposed vision and mission for SMCW beyond 2020

Vision:

Prevent exposure to toxic chemicals and pollution to ensure a safe environment and healthy lives for all;

or simply: Eliminate toxic pollution

Mission:

Working together to prevent and minimize harm to human health and the environment from chemicals throughout their life-cycle and from waste.

It should be noted that this proposal is likewise not without problems. For example, “pollution” can be read as a focus on the environmental sector, whereas much exposure to toxic substances occurs in the workplace or through products. However, in other areas the understanding of pollution has widened from a mere environmental detriment. For example, air pollution is now considered a human health threat in cities and within buildings, at the workplace and at home. The same perspective should be applied to toxic pollution, which can be seen as encompassing environmental integrity as much as occupational safety or other areas in which harmful substances pose a threat to human health and the environment. “Eliminate toxic pollution” has the advantage of being very easy to communicate, very quick to understand, and simple to broadcast. The mission outlined in the box above is then largely built on the proposed text by the co-chairs, although “prevent and reduce” is exchanged by the stronger “minimize and prevent”.

3.2 Principles

The OPS links the Strategic Approach with a number of principles contained in the following documents:

- ▶ Stockholm Declaration on the Human Environment, in particular Principle 22⁵;
- ▶ Rio Declaration on Environment and Development;
- ▶ Agenda 21, in particular chapters 6, 8, 19 and 20;
- ▶ United Nations Millennium Declaration;

⁵ „States shall cooperate to develop further the international law regarding liability and compensation for the victims of pollution and other environmental damage caused by activities within the jurisdiction or control of such States to areas beyond their jurisdiction.”

- ▶ Bahia Declaration on Chemical Safety;
- ▶ Johannesburg Plan of Implementation;

It is noteworthy that, with the exception of the Stockholm Declaration from 1972, there is no singling out of specific principles, but rather a set of references to documents which each contain a larger number of principles to draw from. The Rio Declaration from 1992 is the main document in this regard, as it contains 27 principles, including the principle of common but differentiated responsibilities, the precautionary approach, access to information, and capacity-building. As the documents noted in the OPS contain themselves references to other documents and principles, the set of principles that is relevant for SAICM is even broader and includes, among others, the Declaration on Fundamental Principles and Rights at Work of the ILO (mentioned in the JPoI).

Other documents with links to SAICM include further or more specific principles. For example, the strategy for strengthening the engagement of the health sector in the implementation of the Strategic Approach mentions the following guiding principles:

- ▶ Focus on preventing the human health impacts of existing or future chemicals use;
- ▶ Requirement for strategic actions to be firmly based on available evidence;
- ▶ Need to ensure the participation and protection of vulnerable groups

At the second meeting of the intersessional process in March 2018, delegates mentioned various options, from deleting reference to principles in general through retaining the existing set of principles, to extending the list by adding numerous elements, some of which are already contained in other existing documents. A deletion of all principles is hardly conceivable, as the list embedded in the OPS contains declarations agreed on the highest level and for which to delete there would need to be overwhelming reasons.

Introducing new principles, or attempting to single out a handful of principles as especially some NGOs proposed at IP2, will be a difficult task to achieve, especially with the very limited negotiating time left, and with the obvious controversy such a list would spark. Nevertheless, adding elements mentioned in the co-hosts summary circulated after IP2 might provide some direction to stakeholders and advance the definition of what exactly is meant by “sound chemicals management”. It might, for example, be considered to add a list of relevant resolutions adopted by the governing councils of IOMC member organizations, though discussion would quickly ensue about which ones to include.

A pragmatic outcome would be to take the existing list and add both the UNCSD outcome document “The Future We Want” and the 2030 Agenda. These are the obvious documents missing from the list quoted above. The 2030 Agenda – like the JPoI – mostly refers to the Rio Principles, but also mentions the Guiding Principles on Business and Human Rights, and does contain a detailed list of principles that are supposed to guide follow-up and review processes. While not specific to chemicals governance, the two documents contain sufficient material to use now and in the future.

3.3 Scope

SAICM already has a very broad scope. The OPS defines the scope in Para 3 to include:

- a. Environmental, economic, social, health and labour aspects of chemical safety,

- b. Agricultural and industrial chemicals, with a view to promoting sustainable development and covering chemicals at all stages of their life-cycle, including in products.

The scope thus pertains to a broad range of chemicals. However, in Para 4 it is noted that the Strategic Approach should not duplicate existing efforts, which refers to chemicals which are already covered by MEAs, and specifically mentions that the scope does not include chemical weapons which are dealt with by the Organisation for the Prohibition of Chemical Weapons (OPCW).

Discussions on the scope of the Strategic Approach and the beyond 2020 framework mostly reverberated around the question if and how to include issues related to waste to its work program. Should all wastes be included in the work program, should only hazardous waste be dealt with, or should waste be left out of the renewed mandate?

Broadening the scope does make the beyond 2020 framework more flexible and applicable to issues which do not yet fall squarely into its mandate, e.g. plastic pollution. After all, chemicals and waste are closely linked, and hazardous substances in products pose high risks especially for workers in informal recycling operations. Fostering a circular economy requires better and safer design of products, information transmission throughout the value chain, and better technological equipment and education for workers in the waste sector. Such a widened mandate might offer new opportunities to gain additional funding and attract more stakeholders.

However, the challenge for SAICM was in the past to find sufficient funds to implement activities of its already numerous work areas. Broadening the scope without working on the level of funding, or without linking new work areas to existing funding instruments, runs the risk of stretching the very limited capacities of SAICM dangerously thin. The same holds true for the understaffed SAICM Secretariat. Making waste management a core goal of SAICM, this would require a very different approach and require significant increases in funding. For these and other reasons, including waste issues into SAICM has been contentious in the past and was controversially discussed at IP1 and IP2.

From a strategic perspective, if the goal is to raise the profile of the beyond 2020 platform, it should be linked more closely with high-profile issues, including plastic pollution and other waste-related challenges. Getting a mandate to deal with this might get the beyond 2020 framework some of the importance, attention and funds that SAICM struggles to acquire. It is a different question, though, whether SAICM is the best forum for addressing such issues.

As a possible way out of this impasse, the scope of the beyond 2020 framework could be formulated in a way that makes it open to deal with waste-related issues in the future, without making it the core mission. That way, the future framework would be more flexible than SAICM is today and offer a platform to deal with issues linking chemicals and waste, while not necessarily resulting in a major shift and refocusing too much of the scarce resources on waste issues.

3.4 Governance and institutional arrangements

The governance of the Strategic Approach entails the ICCM as the decision-making body and the forum for review; the Bureau which prepares the ICCM and OEWG and provides guidance to the Secretariat in between ICCM sessions; regional meetings; and the Secretariat which facilitates meetings, prepares reports, provides guidance to stakeholders and has a long list of other duties, many of which can only be undertaken in a very limited manner due to the precarious staffing situation.

3.4.1 A broader framework or SAICM 2.0

Resolution IV/4 calls for “an intersessional process to prepare recommendations regarding the Strategic Approach and the sound management of chemicals and waste beyond 2020”. Initially, most stakeholders interpreted this as a mandate to think about SAICM 2.0, or a successor framework building on and replacing SAICM. Others, however, have interpreted it in a broader way. The European Union and its Member States have read it as a call to not only rethink SAICM, but also to come up with proposals for changes to the overall governance framework on SMCW. In other words, it has been interpreted to include a dual task.

In their submission dated 30 June 2017, the EU and its Member States have presented initial thoughts about the possibility for “a new enabling multilateral framework”, in addition to “a new multisectoral ministerial conference on the SMCW” and a “new multisectoral coordinating body”. The ideas presented in that submission would have the potential to significantly alter the governance landscape, and they have led to discussions around the level of ambition for the future framework. During IP2, this distinction has led to some irritation, as several non-European delegations had been convinced that the mandate given by Resolution IV/4 has been solely to reform SAICM and the ICCM itself, but not to directly affect other frameworks or intergovernmental organizations.

The interpretation of a double mandate is generally valid, but has several caveats. First, the IP and the ICCM have no mandate over the BRS Convention, or the Minamata Convention. Whatever ICCM5 adopts in terms of potential changes to the overall governance architecture on SMCW, any elements affecting the BRS Conventions or the Minamata Convention would have to be adopted by the respective COPs of these legally binding instruments. Second, the ICCM also has no mandate over the IOMC participating organizations. Inasmuch as any ICCM5 resolution affects the work of UN Environment, WHO, FAO, ILO, or any other intergovernmental organization (IGO), this would be not binding but had to be adopted by each organization’s governing body. ICCM5 can thus adopt decisions immediately affecting SAICM, but only issue recommendations for the new governance architecture on SMCW. With these caveats in mind, thinking about a broader framework as outlined in the EU submission on the one hand, and about a strengthened Strategic Approach, or SAICM 2.0, on the other hand can be seen as two separate though interlinked tasks. The mandate given by ICCM4 can indeed be thought of as a dual task, since the IP will only issue recommendations but not adopt decisions. The intersessional process could issue two sets of recommendations: One directed at ICCM5, to adopt a decision on the future of SAICM which lies within its mandate; and one directed at another body, possibly the UN General Assembly or the governing bodies of affected IGOs.

3.4.2 The International Conference on Chemicals Management

The ICCM is the central body for making decisions on SAICM. Several steps could be taken to strengthen the Conference, enhance its relevance, make it more attractive for stakeholders, and put it more prominently on the international calendar.

First, the ICCM should follow a more stringent schedule and meet every two years to make it a more predictable item on the agenda. In the past, the ICCM has taken place in 2006, 2009, 2012, 2015, and will take place in 2020. Especially the long time span between ICCM4 and ICCM5 means that it is difficult to maintain momentum, although the intersessional process alleviates that to some extent. This is too long a time to follow-up on key projects and initiatives, and to engage stakeholders continuously. A more frequent and more prominent ICCM is needed to enhance the visibility of chemicals and waste issues on the international agenda. In the future, the ICCM could take turns with the BRS COPs, so that each year one major meeting on chemicals

and waste will be taking place. The next BRS COPs are scheduled for 2019, and ICCM5 will meet in 2020, so a pragmatic approach would be to have the MEAs meet in odd years, and the ICCM in even years.⁶ These would, however, not be the only meetings on chemicals and waste, as there are also the Minamata Convention COP, meetings of the World Health Assembly, of UNEA and others who are dealing with chemicals and waste.

Second, the ICCM should further enhance stakeholder engagement from relevant sectors. This could be done by reserving space and time to convene a stakeholder day in advance of the official meeting, and by organizing one or two thematic day(s) during the conference. These could be used to bring in stakeholders from sectors which are not necessarily centrally involved in SAICM, but which are highly relevant for dealing with an emerging policy issue or an issue of concern like highly hazardous pesticides, which can only be addressed successfully with and through stakeholders from the agricultural sector.

Third, multi-stakeholder partnerships (MSPs) are an important means of implementation for the 2030 Agenda, and they can also actively contribute to achieving SMCW (Sun 2017). Such partnerships should become a more prominent aspect of ICCMs, and they should be seen as stakeholders participating in, and contributing to, the Conference. A “partnership exchange” could be organized taking a half or full day, inviting multi-stakeholder partnerships to share and discuss their experiences. Such a partnership exchange should be used to highlight each initiatives’ successes as well as what they learned from facing and overcoming problems. A partnership exchange would gain further value if not only the SAICM partnerships are participating, but also those from the broader chemicals and waste governance landscape. Partnerships themselves can act as “learning facilitators” for the involved stakeholders (Sun 2017), and benefit greatly from exchanging experiences with other partnerships (Beisheim and Simon 2016; Hemmati and Rogers 2015). This includes sharing failures and how to deal with them – an issue which is difficult to discuss but can be brought to the table using appropriate formats and facilitation methods. Donors and stakeholders who are repeatedly engaged in partnerships, or who are engaged in multiple partnerships at the same time, benefit from mechanisms that facilitate learning from failure (National Academies of Sciences, Engineering, and Medicine 2016).

There is also value in organizing high-level events around the ICCM; however, during ICCM4 the high-level segment took place in the middle of the Conference, which has reduced the time reserved for deliberations. A better model was found for the second intersessional meeting in Stockholm in March 2018, when a high-level event took place before the meeting, serving both to generate support among high-ranking officials, while at the same time not impairing the limited time available for delegates to negotiate. It needs to be noted, though, that high-level participation is not something that has value per se, and it is likewise not something that can be achieved easily. Unless critical issues remain that can’t be resolved by negotiators, an impasse which occasionally affects the BRS COPs but which would be strange to occur at a voluntary forum, there must be something relevant for high-ranking officials to show up: Outlining major new programs to be launched or issues of global importance to be addressed, presenting new findings on critical risks and threats hitherto unacknowledged, or showcasing outstanding examples of stakeholder cooperation for dealing successfully with challenges of chemicals and waste management.

⁶ There is also the question of the Minamata Convention COP, which could in principle take place together with the BRS COPs, though for the foreseeable future this is not a very likely outcome.

3.4.3 The Bureau and Secretariat

Regarding the Bureau, there are no changes needed, as it is already able to do its job while being representative of the multi-stakeholder and multi-sectoral nature of SAICM. One amendment that could be considered is enhancing the representation of the BRS Conventions, e.g. by giving the BRS Secretariat a seat in the Bureau, next to the IOMC organizations.

When it comes to the Secretariat, the most serious issue is the staffing situation. This was repeatedly mentioned in the independent evaluation (Nurick 2018). There are a number of functions like the proposed clearinghouse mechanism which it is unable to perform due to the shortage of funds and staff. Clearly, without more support and without enhancing the personnel, the limits of what the Strategic Approach can do through its administration are already reached, and often overstretched.

3.5 Strategic objectives and measurable targets

The beyond 2020 framework needs a system of strategic objectives and measurable targets which is able to align the efforts of stakeholders, provide a common reference for activities taking place in different sectors, and which can make progress on enhancing SMCW quantifiable and thus visible (Simon/Schulte 2018).

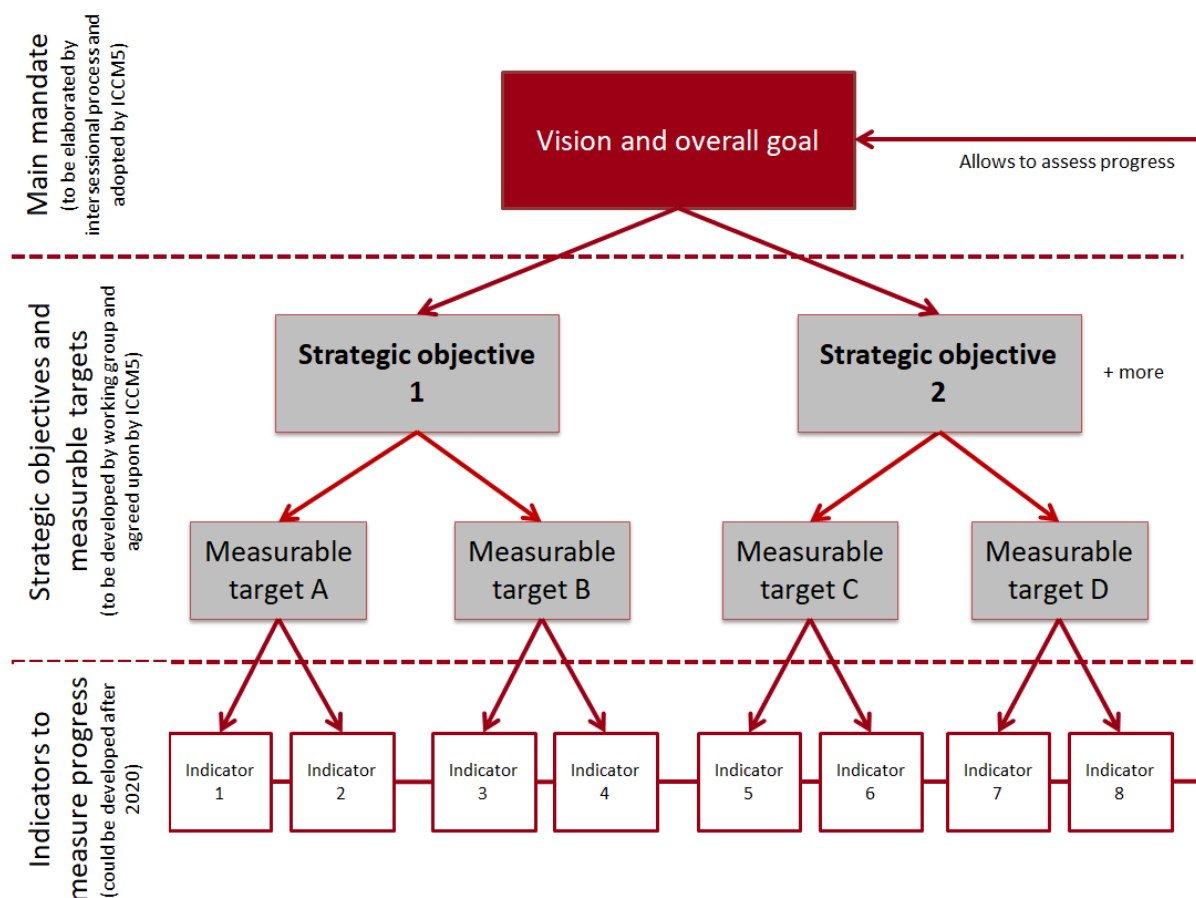
As noted above, the value of the existing framework has been questioned. The set of 46 objectives lacks focus and prioritization, and it is not reviewed and followed up in a stringent manner. Persson et al. (2015) found that the indicators used by SAICM do not cover all of its objectives or the basic elements from the OOG. They concluded that the existing information does not allow for a robust assessment of whether the world is making progress on achieving the 2020 goal or not. In a similar vein, the study commissioned by the Nordic Council of Ministers on chemicals and waste governance beyond 2020 found that “the current indicator framework under SAICM is in need of revision.” (Honkonen/Khan 2017: 58)

Following discussions at IP1 in 2017, where several stakeholders including the EU and IPEN mentioned the need for an improved set of objectives, the Co-Chairs’ Summary took this up and reiterates the need for carving out a system based on measurable objectives and milestones, and the co-chairs restated this need ahead of the second meeting when they states in their overview paper: “Regardless of the form of the future approach, measurable objectives will be needed.” (SAICM 2017b)

Some proposals for new objectives on SMCW beyond 2020 have already been issued or are under preparation (IPEN/PAN 2017). In January 2018, and ahead of IP2, two informal workshops took place in January 2018 dealing with objectives and targets. The first was organised by UNITAR and took place in Berlin (UNITAR 2018). This workshop used the Aichi Targets on biodiversity as a model, discussed lessons learned, and developed some ideas how to apply the concept to SMCW. The second workshop was organized by the Swedish government and was held in Stockholm (SAICM 2018d). The Swedish workshop discussed a vision for the beyond 2020 framework, and mostly focused on identifying possible objectives and accompanying targets.

Many existing system are built on three elements: Strategic objectives, measurable targets, and indicators for assessing progress. This setup can be found in the 2030 Agenda and the SDGs, in the Aichi Targets on biodiversity, and in other comparable areas.

Figure 6: Schematic for the structure of a system of objectives and targets



Source: Adapted from Simon/Schulte 2018.

The draft outline by the co-chairs (SAICM 2018c) lists the following strategic objectives, while stressing that the list is indicative and may need to be developed further:

- Promote the generation of knowledge, data and information and ensure it is available and accessible to all;
- Promote legal and institutional frameworks, implementation and enforcement;
- Promote actions on issues of concern, complementing relevant existing initiatives;
- Address global challenges inherent to managing chemicals in products, global supply chains as well as promote lifecycle approaches and resource efficiency;
- Maximize the benefits of chemicals to all through innovation.

The proposal contains many valuable elements, but the formulation appears not very ambitious as it strives a lot to “promote” rather than “do” things. An alternate approach could be to formulate the strategic objectives as follows:

- Generate knowledge, data and information and make sure it is available and accessible to all;
- Establish legal and institutional frameworks, and ensure implementation and enforcement;
- Act on issues of global concern, and make use of synergies with existing initiatives;

- d) Address global challenges inherent to managing chemicals in products, establish standards for global supply chains, and promote lifecycle approaches and resource efficiency;
- e) Maximize the benefits of chemicals for all, including through sustainable chemistry innovation.

Overall, the intersessional process should strive for a set of 4-6 strategic objectives and not more than 20 measurable targets, each of which could be measured by 1-3 indicators. By ICCM5 in 2020, the objectives and targets would need to be agreed among all stakeholders. Indicators, however, could be devised afterwards, giving the intersessional process the time to focus on the former.

In their attempt to find potential indicators that could be used to identify planetary boundaries for chemical pollution, Diamond et al. (2015) noted that it is highly challenging to establish such a list. Planetary boundaries are thresholds of environmental pollution and resource extraction beyond which irreversible or at least extremely damaging effects would take place (Rockström et al. 2009; Steffen et al. 2015). Diamond et al. (2015) were unable to identify such thresholds for chemical pollution, pointing to difficulties “due to the extremely large number of commercial chemicals or mixtures of chemicals that cause myriad adverse effects to innumerable species and ecosystems, and the complex linkages between emissions, environmental concentrations, exposures and adverse effects.”

This lesson and the example of the SDGs and biodiversity governance make it clear that the challenging task of developing indicators would best be done after the goals framework has been agreed upon. It took about two years, until July 2017, to finalize the set of 232 indicators for measuring progress on achieving the SDGs. For the beyond 2020 framework, indicators could likewise be developed at a later stage, probably by 2022 or by 2024 depending on the date by which the community can agree to launch the process to develop such indicators.

3.6 Emerging policy issues and national implementation

3.6.1 Emerging policy issues

One of the objectives of SAICM is “To ensure that existing, new and emerging issues of global concern are sufficiently addressed by means of appropriate mechanisms” (OPS, Para 14b). The draft independent evaluation noted that “there was a consensus [across all stakeholders that] a major strength and uniqueness of SAICM has been the identification and actions taken on the emerging policy issues.” (Nurick 2018: 62) As outlined above in the introduction, the following EPIs and other issues of concern have been adopted by the ICCM since 2006:

Table 5: List of emerging policy issues and issues of concern; lead agencies; and conference of adoption

Emerging policy issues		
Lead in paint	UNEP/WHO	ICCM2
Chemicals in products	UNEP	ICCM2
Hazardous substance within the life cycle of electrical and electronic products	UNIDO	ICCM2
Nanotechnology and manufactured nanomaterials	UNITAR/OECD	ICCM2

Endocrine-disrupting chemicals	OECD/UNEP/WHO	ICCM3
Environmentally persistent pharmaceutical pollutants	UNEP/WHO	ICCM4
Issues of concern		
Perfluorinated chemicals and the transition to safer alternatives	OECD/UNEP	ICCM2
Highly hazardous pesticides	FAO/UNEP/WHO	ICCM4

Source: SAICM, <http://saicm.org/Implementation/EmergingPolicyIssues/tabid/5524/language/en-US/Default.aspx>

Adopting an EPI requires an application document laying out criteria for an EPI. Nomination takes place based on a questionnaire, in which applicants need to outline the following information, according to ICCM2 document SAICM/ICCM.2/10:

- a) Magnitude of the problem and its impact on human health or the environment, taking into account vulnerable subpopulations and any toxicological and exposure data gaps;
- b) Extent to which the issue is being addressed by other bodies;
- c) Level of knowledge about the issue;
- d) Extent to which the issue is of a cross-cutting nature;
- e) Feasibility of the action proposed;
- f) Relevance of the issue to a broad number of countries or regions, and stakeholders, in particular developing countries and countries with economies in transition.

Based on an application that fulfils these requirements, the ICCM can then adopt or drop an issue. While the application procedure requires sound science as the basis for decision-making, “the identification of emerging issues is ad hoc in nature and is subject to the initiative of at least one member state.” (Honkonen/Khan 2017: 51) This means that the decision for each individual EPI can be assumed to be robust, the set of EPIs does not necessarily mean the most harmful, expensive, dangerous, or otherwise most relevant issues are being addressed. As an example, lead is only addressed in paint, but not in pottery glazes which can also be very harmful. The fact that a “champion” is required to bring forward an EPI does mean that in theory, there should be at least one government with an interest in seeing action undertaken to address the issue; however, issues which for whatever reason do not find such a champion will not be addressed.

The largest problem, though, is that achieving and measuring progress in implementation is hampered by sometimes unclear responsibilities, inadequate formulation of deliverables, and insufficient follow-up. At first sight, this finding is somewhat at odds with that of the above mentioned statement in the draft independent evaluation. However, taking a closer look at the results from a survey conducted by the evaluator reveals that progress on the EPIs has been very uneven; and that a high proportion of stakeholders simply did not have enough knowledge to feel in a position as to judge the progress. Between 28% and 46% of respondents answered they don’t know the degree of success in incorporating the EPIs, a sign for insufficient transparency and communication about these EPIs. Depending on the issue, between 11% and 26% of respondents said there was little or no success. Taken together, almost or more than half of all SAICM stakeholders surveyed could either not judge progress on many or most EPIs, or assumed they were pursued mostly unsuccessful (Nurick 2018: 32). The evaluation thus rightly concludes “it is apparent that the degree of progress made was not uniform across the EPIs with no common means to measure progress.” (Nurick 2018: 63)

In order to address these issues, four key changes are proposed: First, the selection and application procedure should focus more on the importance of an issue in light of other known hazards related to chemicals. These, in turn, could be provided by the science-policy interface, yet before that becomes operational existing publications from IGOs, e.g. the WHO, or from NGOs such as Pure Earth and its “Worst Pollution Problems” should be taken into account. It might even be considered to give the SPI the mandate to propose EPIs on its own. Second, applications should require providing much more detail on the deliverables. Ideally, this would follow the SMART criteria or a comparable model, meaning the intended outcomes should be specific, measurable, achievable, time-bound and resource based. Third, the implementation of deliverables should be pursued by a dedicated partnership or other form of cooperation, extending the above listed IGOs which are responsible in the UN system by other stakeholders who commit themselves to taking action on the issue in line with its programme of work. Fourth, there should be a stringent review and follow-up procedure for all EPIs. Based on the outlined deliverables, the ICCM should be informed to which degree these were achieved or not. If the goals are not achieved to a sufficient degree, reforming the EPIs programme of work or adapting its delivery mechanism may be a useful course of action. If there is repeated and lasting mismatch, or if the contrary happens and the outcomes are fully achieved, an EPI should be disbanded, to make room for other issues to be brought to the forefront.

3.6.2 National action plans

National implementation could be fostered through a national action plan (NAP) mechanism. Urho (2018: 46) observed that “the lack of a strategically prioritized NAP mechanism has resulted in an ad hoc and sporadic approach to development of NAPs with different names and approaches, making it challenging to assess collective progress.” By providing a streamlined model for establishing NAPs, the beyond 2020 framework could remedy this shortcoming of SAICM and, with some assistance provided through the Secretariat or other mechanisms, a second generation of new or updated national strategies or action plans on SMCW could be developed.

These NAPs should be based on the system of objectives and targets and contain how governments intend to achieve these. The formulation of these plans should be based on multi-stakeholder and multisectoral participation on the national level, supported by the Special Program or other appropriate mechanisms, including the GEF. Countries could decide on which elements to focus and which goals to prioritize, yet they should be strongly encouraged to report on all objectives and targets probably once in 4 years.

One criticism against NAPs is that they usually take a long time to be developed. In the case of biodiversity, negotiating and agreeing on a NAP can easily take five or more years. During that time, it could be that only very little is done on implementation. And even after the NAP has been agreed upon and adopted, it does not automatically mean that implementation will successfully be undertaken on a sufficient scale.

3.7 Science-policy interface

In light of the quickly growing production volume of chemicals and the dynamic innovation taking place in the industry and in research institutions, bringing forth a continuous stream of new chemicals, decision-makers must have access to robust and up-to-date assessments on the effects of chemicals on human health and the environment. There is a need for an enhanced science-policy interface (SPI) on chemicals and waste, and the intersessional process offers an opportunity to establish a new approach.

In its broader sense, the science-policy interface refers to the system of interlinkages between academics and other experts as knowledge-holders on the one hand, and political decision-makers on the other. The SPI can encompass several platforms or mechanisms, each of which focuses on specific aspects. In a more narrow and popular sense, the term SPI is used for an institutionalized mechanism in which experts conduct assessments and convey their findings to policy-makers.

In contrast to some popular accounts, the science-policy interface is not a one-way road where scientific knowledge is summarized and forwarded to decision-makers. It is, in other words, not a mechanism for “speaking truth to power”. It is instead a complex and dynamic process of interaction among the domains of science and policy-making (Akhtar-Schuster et al. 2016; Cash et al. 2003). The UN Secretary-General’s Scientific Advisory Board (SAB) noted in its final report:

“Science without policy can be scattered and often fruitless. Policy without science usually fails to accomplish the immediate goal, and undermines confidence that the next policy will be any better. When science and policy unite, the chances of success increase greatly,” (SAB 2016: 17)

Successful SPIs “enjoy regular access to decision makers, are staffed by disciplinary experts who are selected by secretariats, and enjoy control over their own schedules.” (Haas 2017: 67) Retaining and securing the independence and the quality of scientific advice is an on-going challenge, especially in highly contested policy areas where scientific findings are regarded as essential foundations for policy-making (Beck and Mahony 2017). This makes the transparency of decision-making processes a matter of much scrutiny and debate, especially regarding the nomination procedures for experts, the sources of knowledge used to conduct assessments as well as the ultimate quality of these assessments (Vohland and Nadim 2015).

In order to make informed decisions, decision-makers from governments and other stakeholders need robust and comprehensive knowledge. In the area of chemicals and waste, a number of mechanisms already exist, but they are mostly charged with assessing individual substances or a limited number of substances in a specific group of chemicals. If broader assessments are being undertaken, these are typically ad hoc efforts, without much opportunity to learn from past experience, and without the effort to establish a baseline for assessing developments over a longer timeframe. The governance of SMCW is lacking an SPI that allows conducting repeatedly assessments on the state of chemicals use and production and on the impacts of chemical pollution. It lacks a process that would constantly engage the academic community and incentivize researchers to pursue questions of high relevance for decision-makers. There are some platforms yet no overall connection between academics on the one hand, and policy-makers on the other hand. Strengthening the link between science and policy is therefore urgently needed in global chemicals governance.

3.7.1 Models of science-policy interfaces and potential application for SMCW

There is a large variety of science-policy interfaces, including intergovernmental panels, expert commissions, independent platforms, and others. A general distinction can be made between a “panel” or “platform”, on the one hand, and a “network” approach on the other. However, there is a variety of examples for each type, and mixed forms can also be found. For the purposes of this paper on the chemicals and waste cluster, the following types are most relevant and require consideration:

First, an **intergovernmental platform or panel** is an independent body established by a number of countries, which has its own decision-making governing body. Their mandate can entail to undertake scientific assessments for summarizing the state of knowledge in an issue area, or also include the formulation or assessment of policy response options. In the chemicals and waste area, no such body exists. While the Intergovernmental Panel on Climate Change (IPCC) is an example of the former, the International Platform on Biodiversity and Ecosystem Services (IPBES) is exemplary for the latter. In the mid- and late 2000s, the proposal for an Intergovernmental Panel on Chemical Pollution was brought forward, first by academics (Scheringer et al. 2006) and later by the Swedish politician Margot Wallström (Scheringer et al. 2012: 369). It was thought of as a full-fledged independent mechanism with its own governing body, budget and secretariat. The proposal was not, however, picked up by many stakeholders. It resurfaced again in a report published in 2013, where it was dubbed a Global Panel on Chemicals and assumed to “provide authoritative information on scientific advancements in evaluating chemical hazards, exposures, uses, and alternatives”, among other things (Tuncak/Ditz 2013: 44). As such a panel and its decision-making body is a rather resource-intensive mechanism, especially in light of the unwillingness to establish new institutions it is unlikely to be established in the foreseeable future.

Second, **global commissions and international assessment processes** are established for the purpose of conducting one single assessment, or one volume in a series of assessments. They can be established by one of the principal organs of the UN, such as the UN General Assembly, by the UN Secretary General, or an intergovernmental organization. An example established by the UN Environment Programme is the Global Environment Outlook (GEO), which is currently finalizing its sixth edition. In the area of chemicals and waste, the Global Chemicals Outlook (GCO) and the Global Waste Management Outlook (GWMO) are notable examples. For the beyond 2020 framework, the ICCM could establish a subsidiary body which would be charged with maintaining a science-policy interface on chemicals, and probably also on waste. It would require dedicated resources in the form of secretariat staff and a budget. This option might be more realistic than a full-fledged panel. It should be ensured, though, that the body established here has some continuity and reliability, both in order to learn from past experiences, and to build up a reputation which in the medium to long term can be a major factor in shaping the global SMCW agenda.

Third, **technical assessment bodies** are established as bodies under existing conventions, such as the Chemicals Review Committee (CRC) under the Rotterdam Convention, the POPs Review Committee (POPRC) under the Stockholm Convention, or the Scientific Assessment Panel (SAP), Environmental Effects Assessment Panel (EEAP) and Technology and Economic Assessment Panel (TEAP) under the Montreal Protocol. Their mandate is typically relatively narrow, to produce specific scientific assessments, e.g. on the hazardousness of chemical substances to provide advice on whether or not it should be listed in a Convention’s annex to become regulated. There would be little added value for another assessment body under SAICM. Instead, these bodies should continue their valuable work, and if at all, their findings might be used more in the future for informing the ICCM.

3.7.2 An enhanced science-policy interface on chemicals

Urho (2018: 60) proposed three possible models for enhancing the SPI: First, enhancing links with existing science-policy interfaces; second, institutionalizing scientific input in the beyond 2020 framework; and third, strengthening the science-policy interface through an external body. Comparable options have been put forward by Honkonen/Khan (2017: 55). While an external

body might provide the most robust and effective output, the reluctance of many stakeholders to add “new” elements to the existing framework could mean this option is unlikely to garner sufficient support. A leaner option in the form of a subsidiary body under the ICCM might be a good compromise between the need to strengthen the science-policy interface, and the desire of many donor countries to avoid new bodies.

The new body would require support from some staff in the secretariat which would manage administrative issues to support the SPI. Based on existing best practice examples, a group of lead and contributing authors need to be identified based on the required assessment. It would make sense to equip this SPI with the resources to conduct two assessments in parallel: First, a review of the state of chemicals production, major trends, and the prevalence and impacts of chemical pollution. In addition, a review should be undertaken on the progress made on the objectives and targets described above. The GCO should be developed in this direction, establishing a clear baseline and good practice for reporting, much like the Global Biodiversity Outlook does for the CBD. In parallel, a second stream of thematic assessments could be undertaken. One particular knowledge gap that requires attention is the costs of inaction (UNEP 2013b). There is no robust calculation, or even a rough yet reliable estimate, about the total costs of chemical pollution and the unsound management of chemicals and waste. Closing this knowledge gap would provide a much more compelling cause of action to all stakeholders, and it would greatly assist in developing a narrative that convincingly explains why action on SMCW is much needed to achieve the 2030 Agenda on Sustainable Development, and to pursue the vision which will be outlined in the beyond 2020 framework.

An actively engaged academic community is an essential element of a successful SPI. Once established, the SPI could be outlining essential unanswered research questions which require in-depth thinking to advance sustainable chemistry and chemical governance. Academics could conduct research based on this call to assess the key questions that are of particular relevance to policy makers, e.g. the costs of inaction and the benefits of action; or the development of diverse response options. The participation of academic experts at the ICCM could be incentivized through a scientific discussion stream, a full day focusing on research, and participation of academics in high-level discussions.

3.8 Review and follow-up

A mechanism for review and follow-up is needed to assess progress, and to strengthen or adapt implementation efforts accordingly. The current system is not fit for purpose (Persson et al. 2015; Honkonen/Khan 2017). It consists of countries submitting information on the 20 indicators based on a questionnaire every three years, and the Secretariat summarizing the findings in a progress report which has a relatively low profile.

Urho (2018: 54-55) recommends a combination of collective progress review and individual stakeholder reviews. For collective progress reviews, the least ambitious option would entail the Secretariat summarizing input from stakeholders who hand in reports, while a more ambitious option would include a proactive screening of national action plans and other documents by a designate review body. For individual stakeholder reviews, Urho refers to existing systems based on voluntary national reviews (VNR), which could be done by independent experts or take place in the form of peer reviews. Both approaches could be combined, which to some extent is what is happening already under SAICM. Today, there are triennial progress reports prepared by the Secretariat based on stakeholder input, and currently an independent evaluation is about to be finished covering the timeframe 2006 – 2015. For the beyond 2020 framework, likewise both aspects could be included in a review system, with national reports handed to the secretariat, and an independent assessment process connecting the dots and filling in gaps where necessary.

The low reporting rate is a key challenge for SAICM. An important feature of well-working reporting mechanisms is that reporting parties can get support for compiling their reports, and that these reports are not disappearing in a desk but are used in meaningful follow-up procedures (Ivanova 2017). For the beyond 2020 framework, these findings could lead to the following model: A well-staffed secretariat provides necessary assistance, including through the GEF, in compiling quadrennial national reports, which are structured around the set of objectives and targets. Based on the national reports, the Secretariat then uses the information provided to compile a summary document, outlining global progress in achieving the overarching objective of the framework. Following the model of the Convention on Biological Diversity and the Global Biodiversity Outlook, the Global Chemicals Outlook could fulfil this function in the future. Furthermore, information from private initiatives such as the chemical industry's Responsible Care could be used as well as reports from civil society organizations such as IPEN or PAN to get a diverse range of perspectives. Where data gaps exist, including due to non-reporting countries, these should be outlined clearly. This provides stakeholders with an incentive to hand in reports, as parties know their contribution enhances the quality of the global assessment and avoids being named as a non-reporting party and cause of a poorer quality of the global assessment.

In a best case scenario, the intersessional process could have taken the time to think about a possible convergence of reporting duties under the BRS Conventions and under SAICM or the beyond 2020 framework, respectively. An almost utopian vision would entail a joint report on the legally binding and voluntary institutions dealing with chemicals and waste, but before that could be realized, the synergies process between the BRS Conventions would have to be pushed much further. As governments could not even take the decision to add the Minamata Convention secretariat to the BRS secretariat, such a proposal for joint reporting is unlikely to be realized in the foreseeable future.

No matter how far-reaching the objectives and targets will turn out to be, it will need a flagship publication assessing progress on achieving these, and on measuring progress in implementing the overall vision. The GCO should be redeveloped in future publications as a review of the newly established strategic objectives and targets, much like the Global Biodiversity Outlook (GBO) does under the CBD. The task could fall on a newly established science-policy panel, as a subsidiary body to the ICCM (see above).

3.9 Financing and implementation

Probably the most contentious issue was, and will be, the issue of financing. As written above, financing was the weak spot of SAICM since its inception, with underfunded, time-limited mechanisms that never could provide a level of financial means to even remotely achieve the 2020 goal, or even a majority of the 46 OPS objectives. The OPS also contains a lengthy list of needs that ought to be addressed in order to implement the 2020 goal. While valid, this needs assessment has not led to a sufficient level of funds made available for developing countries. It is doubtful that a renewed needs assessment could change this, as a comparable effort under the Basel Convention, which has found the need for at least US\$ 1 billion more per year, has not resulted in significant budget increases. A background paper on financing SMCW was prepared ahead of IP2 and concluded:

“Overall, the current level of funding for the sound management of chemicals and waste is widely considered inadequate. The approach to funding has been hampered by fragmentation, disconnections and insufficient coordination. The focus has been primarily on external and direct funding while leaving other potential sources, including greater use of economic instruments, largely untapped. Similarly, sound management of

chemicals and waste requires a robust methodology to estimate related cost beyond direct costs, taking into account the costs of inaction and benefits” (SAICM 2018b)

The integrated approach relies on the three elements mainstreaming, industry involvement, and dedicated external finance. As experiences with mainstreaming show, it can contribute to achieving progress on SMCW, but it should not be overestimated as a significant source of funds or other means of implementation (SAICM 2015c; SAICM 2018b). Hopes for significantly increasing industry funds to SAICM have not materialized in the past and are unlikely to do so in the future. Instead, focusing on in-kind contributions by chemical companies and associations through joint projects or partnerships could offer a more promising path. Rather than direct transfer of funds, the international community should encourage industry to send more experts, enhance their engagement in technological cooperation and foster the sharing of information both among individual businesses or national and regional associations. In theory even small levies on chemicals to be paid by the industry could yield significant amounts of money, with a small tax of 0.1% potentially leading to funds of about US\$ 4 billion as IPEN calculated. However, it would be up to the national governments to implement such a system, where businesses would be quick to point out the amount of taxes they are already paying, and where national policy-makers would be concerned about the competitiveness of domestic companies.

Dedicated external finance will thus continue to be the main source of funds for the beyond 2020 framework, just as it was for SAICM. Funding SAICM is a challenge, as national finance ministries are hard to convince to provide more funds for a voluntary global framework with not much to show as tangible successes. Looking at funding made available to SAICM through the GEF shows that, first of all, the chemicals and waste focal area is allocated 14.8% of the available GEF7 budget, whereas biodiversity (31.9%) and climate change (19.8%) receive considerably more funds. Secondly, the binding Stockholm and Minamata Convention, for which GEF is the primary funding mechanism, are receiving the majority of funds, whereas SAICM has been budgeted with only US\$ 13 million both in GEF6 and in GEF7 (see).

Table 6: Funding in the Chemicals and Waste Focal Area in GEF6 and GEF7, in million US\$

	GEF6 (2015 – 2018)	GEF7 (2019 – 2022)
Stockholm Convention (POPs)	375	392
Minamata Convention (Mercury)	141	225
Montreal (Ozone-depleting substances)	25	25
SAICM	13	13
Total Focal Area	554	655

Source: GEF.

Delegates from several donor countries noted that it is difficult to convince finance ministries to increase funds to the Strategic Approach, mostly for two reasons: First, as a voluntary instrument, it is considered as less relevant than a binding framework convention. And second, it lacks goal-specific work programs and monitoring measures which would allow for measuring success. These concerns will have to be addressed to make a more compelling case for funding the beyond 2020 framework. It does not suffice for stakeholders to know the value of an open multi-stakeholder forum and the opportunity to address chemical issues for which no other mechanism exists in global governance. The large and increasing economic volume of the chemical sector, and the profits chemicals enable for downstream manufacturers, can be used as an argument in debates about future finance. Other arguments relate to the health and

environmental (including climate) burden of chemical pollution. NGOs have long made the argument that the chemical industry externalizes costs stemming from the health and environmental impact of their products, and called for internalizing these costs. This is all the more reason why a robust assessment on the costs of inaction would be vital. In addition, there is an opportunity in strengthening the connection with high profile issues such as climate change or biodiversity, and to increasingly devise programs tapping into the co-benefits of enhancing SMCW and combatting climate change as well as halting biodiversity loss. Last but not least, equipping programs on issues of concern with clear and tangible goals makes them more transparent.

In any case, delegates should prepare for contentious discussions both at OEWG3 and at ICCM5. As one delegate mentioned in an informal workshop, SAICM could only be established once the QSP was agreed on in 2006, and despite the unwillingness of developed countries to establish a new fund on SMCW, this might be exactly what developing countries will want to see in 2020 before they commit to move on. A possible middle way would be to begin fleshing out in more detail what the integrated approach actually contributes, and to develop it further into a meaningful and transparent instrument for financing SMCW. The OEWG3, the intersessional process, the upcoming UNEA4, and ICCM5 provide ample opportunity to continue working on the integrated approach. If it becomes a more relevant concept, leads to increased transparency over funds, and ultimately helps to provide sufficient resources through all three pillars, it could become a much more important element beyond 2020.

4 Conclusion

The intersessional process offers a window of opportunity to enhance the Strategic Approach to International Chemicals Management by building on and retaining its strengths, and remedying its shortcomings. It also opens up the possibility to further develop the governance architecture on SMCW in a way that it becomes fit for purpose to deal with both unresolved and upcoming issues in a dynamically developing chemicals world. A near doubling in chemicals production from 2015 to 2030 with many new chemicals on the market, further increasing chemical intensification of global economies, and massive damages to human health and the environment due to chemical pollution all require an approach to governance that is ready to deal with these serious challenges. So far, SAICM is not ready to take on this task.

Important basics for the further process are readily available to SAICM stakeholders. Assessments of the strengths and weaknesses of SAICM are published, including in draft form by an independent evaluator (Nurick 2018). There are a number of reform options on the table, and some of these have been outlined comprehensively in the literature (e.g. Honkonen/Khan 2017; Urho 2018). Civil society representatives have published detailed accounts about what they think a beyond 2020 framework should look like (IPEN 2017). The co-chairs have produced synthesis papers based on the discussions at IP meetings and incorporating feedback from stakeholders, and they will publish a zero draft of the outcome document towards the end of 2018, in time for the third meeting of the Open-ended Working Group.

After thus far two meetings of the intersessional process and ahead of OEWG3 in April 2019, there is a corridor emerging that indicates the possible direction and outcome beyond 2020. Stakeholders have shown considerable willingness to enhance SAICM, while retaining its voluntary, multi-stakeholder and multisectoral character. Some stakeholders proposed to establish new instruments, others were wary of adding institutions to the crowded and fragmented governance landscape. There is a compromise possible, as SAICM can either be enhanced in its current form, or be replaced by a strengthened successor; in both cases, there would be no additional new body created. Last but not least, while many low- and some middle-income countries have openly put forward the need for increased funding or even new funds, most donors were very reluctant and pointed towards existing funds and instruments. The intersessional process will have to strike a balance between these demands, yet some possible solutions are conceivable.

This study concludes with recommendations for the Federal Government on the strategic prioritization during the remaining two years of the intersessional process. Three critical elements have been found to affect several of the areas in which gaps and shortcomings have been identified, and it is recommended to focus on these. They encompass the emerging policy issues and other issues of concern; the science-policy interface; and the set of strategic objectives and targets.

Table 7: Reform options for SAICM and SMCW beyond 2020

Strengths	Weaknesses	Reform options
Voluntary; open forum; facilitates exchange on various issues which might be too contentious for a legally binding platform	Lack of politically binding elements; insufficient “soft” power to induce interest and commitment	Raise profile and visibility of SAICM to enhance political commitment through enhanced ICCM; promote existing and develop new global standards; strengthen follow-up and review mechanism

Strengths	Weaknesses	Reform options
Multi-stakeholder participation; governments and non-governmental stakeholders are actively engaged	Lack of involvement by downstream chemical users, other non-governmental actors including consumer protection organisations, and the scientific community	Increase engagement through multi-stakeholder partnerships across the value chain, e.g. by raising the profile of the chemicals in products programme; rethink ICCM, e.g. to facilitate more varied thematic discussions and dedicated science-policy interface
Multisectoral composition; strong participation by the environmental sector	Imbalanced representation, limited engagement by some sectors (e.g. labour), low engagement of downstream industries and manufacturing	Introduce thematic special days at ICCM on crosscutting issues; require issues of concern to include plans for implementation outlining clear responsibilities; strengthen links between sectors through an integrated set of strategic objectives and measurable targets
Ability to cover all chemicals unless already addressed by other institutions or organisations	Insufficient indicator system does not allow to measure progress on the ground; lack of any indicator for chemical pollution levels	Develop a new system of strategic objectives and measurable targets that integrates all sectors and stakeholders and make progress (or the lack thereof) visible
Addresses new and upcoming challenges; established a set of six emerging policy issues and two other issues of concern	Set of EPIs and other issues of concern lacks prioritization; insufficient means of implementation	Consolidate the list of EPIs and other issues of concern; design them based on SMART goals (specific, measurable, achievable, time-bound, and resource-based), review progress, and provide the necessary means of implementation
Scientific knowledge essential in decision making, e.g. for establishing new EPIs	No mechanism for scientific assessments; SAICM has not become a platform for fostering research and conducting assessments; involvement of academic community could be stronger	Establish a dedicated mechanism like a subsidiary body to enhance the science-policy interface in order to, i.a., assess the economic costs and benefits of chemical pollution and chemical management, enhance knowledge base and increase visibility of SAICM
Some funding available for implementation projects by stakeholders, first under QSP and now under the Special Programme; additional funds to be disbursed by the GEF	Low level of funding; SP only eligible to governments; time horizon of the SP is limited	With an enhanced funding architecture for SAICM and the SMCW beyond 2020, many more activities could take place, additional stakeholders be mobilised, and chemical pollution be reduced

First, the emerging policy issues and other issues of concern need an overhaul, both towards the list of issues and towards the way how they are handled under SAICM. Stakeholders need to think thoroughly about whether the selected issues represent the most relevant, most critical, or most harmful issues. The Federal Government should launch, or support the launch of, a discussion on the margins of the intersessional process to revisit the list of EPIs with the goal to

clearly prioritize among them, and to identify possible neglected issues that have a high impact. Lead in ceramic and pottery glazes or used lead acid battery recycling could be among the candidates for considerably strengthened efforts under the beyond 2020 framework. In addition, the process surrounding EPIs needs to be redesigned. All EPIs should be designed to outline clearly intended activities and responsibilities of stakeholders, expected outcomes and impacts, and measures for assessing progress. EPI applications could, for example, require elements based on the SMART criteria, entailing that their goals be specific, measurable, achievable, time-bound, and resource-based. EPIs which are not achieving sufficient progress would either need to be redesigned, or ultimately dropped. In order to foster implementation, financial resources should be made available, either through the GEF Chemicals and Waste Focal Area, the Special Programme, or another applicable fund. In short, issues of concern would be much more streamlined; represent agreed and assessed priority areas on SMCW; and be designed to focus on implementation.

Second, the science-policy interface needs to be strengthened. The Federal Government should develop a model that could fill the existing gap, discuss and refine it in informal meetings, and then feed it first into the intersessional process. The goal would be the establishment of a subsidiary body as an institutionalized science-policy interface, which can conduct two assessments in parallel: First, as a continuation of the GCO process, the mechanism should be able to prepare a report on the state of chemicals production and the impact of chemical pollution, on the one hand, and to review progress on achieving the beyond 2020 framework's strategic objectives and measurable targets, on the other hand. In a second work stream, the SPI should be able to conduct a thematic assessment. As a first priority, the costs of inaction and benefits of action on SMCW should be quantified in a much more detailed and robust way than the existing UNEP report was able to achieve (UNEP 2013b). The SPI would foster the scientific basis of decision-making in the ICCM, and be able to outline existing gaps and uncertainties which require enhanced attention, including by the academic community. An enhanced SPI is, last but not least, an important mechanism for engaging the scientific sector, and for fostering the further establishment of an epistemic community, a loose group of experts dealing with policy-relevant questions on SMCW from a scientific perspective. The interface mechanism should bring together not only chemists, but also engineers, biologists, human health specialists, economists, and political scientists, in order to conduct the assessments from a multi-disciplinary perspective, and outline potential policy response options for consideration by delegates at the ICCM.

Third, the set of strategic objectives and measurable targets should become a cornerstone for increased cross-sectoral cooperation and multi-stakeholder collaboration. It can also become an essential element for measuring progress in achieving the renewed, overall vision. To achieve these aims, the Federal Government should contribute decisively to an inclusive process for the deliberation of the objectives and targets. German delegates should make sure that all relevant sectors and stakeholders are represented at drafting workshops. This includes especially the IOMC organizations which are not highly engaged in the SAICM process, as well as the BRS Convention stakeholders including the BRS Secretariat, and sectoral representatives including from chemicals-intensive businesses such as agriculture or the textile sector. Only if the selection and formulation of the objectives and targets is representative of the overall SMCW agenda, and if all stakeholders had a word in the drafting process can this mechanism function as a common umbrella, bringing together all actors required to forcefully and jointly eliminate harm from toxic pollution.

These priority areas should be pursued immediately in the preparation for OEWG3 in April 2019 and also afterwards to find common ground on a refined model for the Strategic Approach.

Coalition-building is a key task now ahead of those stakeholders who want to get most out of the reform process. Germany has undertaken a lot of outreach and facilitation activities, and has started early on with these. They are including the series of informal European workshops in Brussels and Berlin between 2015 and 2017 within this project, and hosting the UNITAR workshop on the Aichi Targets in January 2018. The President of ICCM5 in the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety has been very active in reaching out to all regions and listening to their perception and priorities. With the High Ambition Alliance, the Swedish government has brought together a group of governments and other stakeholders who want to progressively move in this direction, and German is an active participant of that Alliance. Beginning to forge coalitions around progressive reform proposals in order to slowly but steadily develop consensus positions is much-needed ahead of OEWG3, for the remaining meeting(s) of the intersessional process, and of course towards ICCM5, planned to take place in October 2020.

Although two IP meetings are already over, there is almost two years' time between now and ICCM5 to redraft and refine proposals, to engage in formal and informal exchange and to carve out a framework that will be able to deal with unresolved problems of today and with challenges laying ahead of us in the future.

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A Resolution IV/4: The Strategic Approach and sound management of chemicals and waste beyond 2020

The Conference,

Recalling the Plan of Implementation of the World Summit on Sustainable Development,

Noting the 2030 Agenda for Sustainable Development and in particular the targets to achieve, by 2020, the environmentally sound management of chemicals and all wastes throughout their life cycles, in accordance with agreed international frameworks, and to significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment and to substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination by 2030,

Recalling the Millennium Development Goals and the outcome document of the United Nations Conference on Sustainable Development entitled “The future we want”, and in particular the aim to achieve, by 2020, the sound management of chemicals throughout their life cycles and of hazardous waste in ways that lead to the minimization of significant adverse effects on human health and the environment,

Recalling also resolution 1/5 of the United Nations Environment Assembly of the United Nations Environment Programme, in which the Environment Assembly welcomed the important contribution of the Strategic Approach in facilitating action by all relevant stakeholders towards the sound management of chemicals and waste, emphasized the need for continued and strengthened multisectoral and multi-stakeholder involvement and recognized that the need to prevent or minimize the significant adverse effects from chemicals and hazardous wastes on human health and the environment would continue to provide a strong basis for sound chemicals and waste management beyond 2020,

Recalling further the outcome of the country-led consultative process supported by the United Nations Environment Programme on enhancing cooperation and coordination within the chemicals and waste cluster and the outcome document of the process, entitled “Strengthening the sound management of chemicals and wastes in the long term”,

Noting that projections as set out in the 2012 Global Chemicals Outlook show an increase in chemical production and use worldwide, continuing beyond 2020, with the largest increases also occurring in developing countries and countries with economies in transition and that all countries will need to continue strengthening their capacity for governance, knowledge- and information-sharing and risk reduction required to promote the sound management of chemicals and waste beyond 2020, *Noting* also the continuing need to respond to new and emerging issues and to ensure that newly identified risks to human health and the environment can be identified and timely action taken to reduce those risks,

Noting further the value of a voluntary, multisectoral and multi-stakeholder approach to mobilize all actors, which can enable flexible and timely action to promote the sound management of chemicals and waste,

Recognizing the need to start considering arrangements for the period beyond 2020,

1. *Requests* the secretariat, subject to the availability of resources, to contract an independent evaluation of the Strategic Approach in accordance with the terms of reference set out in the annex to the present resolution;
2. *Decides* to initiate an intersessional process to prepare recommendations regarding the Strategic Approach and the sound management of chemicals and waste beyond 2020;
3. *Also decides* that the intersessional process should include, in principle, two meetings before the third meeting of the Open-ended Working Group and one meeting between the third meeting of the Open-ended

Working Group and the fifth session of the International Conference on Chemicals Management and that it may also work by correspondence and/or by electronic means;

4. *Directs* the Open-ended Working Group to consider the need to call an additional meeting of the intersessional process before the fifth session of the International Conference on Chemicals Management;

5. *Decides* that meetings of the intersessional process should, as far as possible, be held back-to-back with other relevant meetings and processes;

6. *Requests* the Bureau of the fifth session of the International Conference on Chemicals Management, with assistance of the secretariat, to notify the stakeholders by 31 March 2016 of the first meeting of the intersessional process specified in the present resolution and, in consultation with the participants at that first meeting, to draw up the timetable for the subsequent meetings;

7. *Decides* that the intersessional process should be open to all stakeholders and requests the secretariat to support, subject to the availability of resources, the participation of stakeholders eligible for funding as identified by the regions and sectors through the Bureau, up to eight from African States, eight from Asian-Pacific States, three from Central and Eastern European States, five from Latin American and Caribbean States and two representatives of each of the health, trade union and public interest sectors of non-governmental participants, in order to support balanced regional and sectoral participation;

8. *Also decides* that the participants at the first meeting of the intersessional process should elect two co-chairs from among the Governmental participants present at that meeting;

9. *Further decides* that the work of the intersessional process is to be informed by the 2030 Agenda for Sustainable Development, resolution 1/5 of the United Nations Environment Assembly and the outcome document “Strengthening the sound management of chemicals and wastes in the long term”, including the vision to achieve the sound management of chemicals throughout their life cycles and of hazardous wastes in ways that lead to the prevention or minimization of significant adverse effects on human health and the environment as an essential contribution to the three dimensions of sustainable development;

10. *Decides* that the intersessional process should, among other things, consider the need for and develop recommendations regarding measurable objectives in support of the 2030 Agenda for Sustainable Development;

11. *Requests* that the secretariat make available and that the intersessional process consider relevant available documents, including the independent evaluation of the Strategic Approach referred to in paragraph 1 above, the overall orientation and guidance, relevant documents and reports of the International Conference on Chemicals Management, the Open-ended Working Group and regional meetings, relevant United Nations Environment Assembly resolutions and other relevant documents available on the Strategic Approach website, the Global Chemicals Outlook, Global Waste Management Outlook, report entitled “Cost of Inaction on the Sound Management of Chemicals” by the United Nations Environment Programme and related World Health Organization health priority documents;

12. *Directs* the Open-ended Working Group to consider the conclusions of the independent evaluation and any recommendations identified by the intersessional process for consideration by the International Conference on Chemicals Management at its fifth session.