



Beyond 2020: Chemical safety and Agenda 2030

IPEN and Pesticide Action Network

January 2017

Introduction

The Strategic Approach to International Chemicals Management (SAICM) addresses significant health and environmental harms caused by chemical exposure and makes a global political commitment to reform how chemicals are produced and used in order to minimize those harms. Heads of State at the 2002 World Summit on Sustainable Development in Johannesburg called for the development of SAICM. While the agreement is not legally binding, its basic texts represent a consensus of Environment Ministers, Health Ministers and other delegates from more than one hundred governments who attended the first International Conference on Chemicals Management (ICCM1), held in Dubai, February 2006.

Well before Agenda 2030 was adopted, a key feature of the 2006 SAICM high-level Dubai Declaration was the inherent relationship between chemical safety and sustainable development: The Declaration opens with the statement, *“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.”*¹

In adopting SAICM, governments agreed that advancing chemical safety should be viewed as a necessary component of the sustainable development agenda. The diseases and behavior disorders caused by chemical exposures not only cause human suffering, they also retard economic productivity and impose costly additional burdens on a country’s health and education systems. Shortfalls in a country’s ability to manage chemicals become barriers that block economic development and poverty reduction initiatives.

In October 2015, governments adopted the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs).² The Preamble notes a determination to take *“bold and transformative steps which are urgently needed to shift the world on to a sustainable and resilient path.”*³ The overall plan seeks to *“realize the human rights of all”*⁴; *“achieve gender equality and the empowerment of all women and girls”*; and *“ensure the lasting protection of the planet and its natural resources.”*⁵

¹ UNEP - WHO (2006) Strategic Approach to International Chemicals Management

http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

² United Nations (2015) Transforming our world: The 2030 Agenda for Sustainable Development, UN General Assembly, A/RES/70/1 http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E

³ United Nations (2015) Transforming our world: The 2030 Agenda for Sustainable Development, UN General Assembly, A/RES/70/1 http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E

⁴ For more information on the human rights dimensions of chemical safety, please see the IPEN paper, “Beyond 2020: Human rights and chemical safety.”

⁵ United Nations (2015) Transforming our world: The 2030 Agenda for Sustainable Development, UN General Assembly, A/RES/70/1 http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E

The 2030 Agenda for Sustainable Development reaffirms all the principles of the Rio Declaration on Environment and Development and it envisages, “a world free of poverty, hunger, disease and want.”⁶ It reaffirms commitments regarding, “the human right to safe drinking water and sanitation”; “improved hygiene”; and a world, “where food is sufficient, safe, affordable and nutritious.”⁷

Actions related to chemical safety and toxic chemicals are either referenced or implied in many, if not all of the SDGs. The Agenda also acknowledged that progress made toward achieving these goals should be measurable.

The International Conference on Chemicals Management, at its fourth session (ICCM4), welcomed the 2030 Agenda for Sustainable Development, and it noted that there is a, “potential for the Strategic Approach multisectoral and multi-stakeholder platform to make a significant contribution to the implementation of that Agenda, in particular its goals and targets relating to chemicals and wastes.”⁸ Furthermore, ICCM4 decided that the SAICM Beyond 2020 process should, “develop recommendations regarding measurable objectives in support of the 2030 Agenda for Sustainable Development.”⁹ These recommendations should be concrete and provide clear connections to minimizing harms associated with chemicals and wastes.

Sustainable Development Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture

Targets under SDG2 include:

2.3: “double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land...”

2.4: ensure “sustainable food production systems and implement resilient agricultural practices”

2.5: “maintain the genetic diversity of seeds, cultivated plants...”

The Dubai Declaration notes that one of the key reasons for taking concerted action on chemical safety concerns is the “dependency on pesticides in agriculture.”¹⁰ In 2015, ICCM4 adopted Resolution IV/3 establishing highly hazardous pesticides (HHPs) as a SAICM Issue of Global Concern.¹¹ Delegates recognized, “that highly hazardous pesticides cause adverse human health and environmental effects in many countries, particularly in low-income and middle-income countries” and agreed to take concerted efforts to implement a strategy developed by FAO, UN Environment, and WHO. Delegates further indicated that this should be done, “with emphasis on promoting agroecologically based alternatives.”

SAICM Beyond 2020 can contribute to Agenda 2030 by developing a global plan of action to implement this FAO, UN Environment, WHO strategy with the aim of increasing the agricultural productivity and

⁶ United Nations (2015) Transforming our world: The 2030 Agenda for Sustainable Development, UN General Assembly, A/RES/70/1 http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E

⁷ United Nations (2015) Transforming our world: The 2030 Agenda for Sustainable Development, UN General Assembly, A/RES/70/1 http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E

⁸ UNEP (2015) IV/1: Implementation towards the achievement of the 2020 goal, Report of the International Conference on Chemicals Management on the work of its fourth session, SAICM/ICCM.4/15

⁹ UNEP (2015) IV/1: Implementation towards the achievement of the 2020 goal, Report of the International Conference on Chemicals Management on the work of its fourth session, SAICM/ICCM.4/15

¹⁰ UNEP - WHO (2006) Strategic Approach to International Chemicals Management http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

¹¹ UNEP (2015) IV/3 Highly hazardous Pesticides, Report of the International Conference on Chemicals Management on the work of its fourth session, SAICM/ICCM.4/15

incomes of small-scale food producers while at the same time achieving significant measurable reductions in human and environmental exposures to HHPs through implementation of agroecology. The use of agroecology was emphasized by the by the UN Special Rapporteur on the Right to Food, de Schutter, in his 2010 report to the Human Rights Council¹² which outlined the significance of agroecological practices to offer a more sustained and equitable strategy than reliance on genetically engineered crops and agrochemical inputs and in providing higher incomes and improved livelihoods for the poorest, particularly small scale farmers in developing countries.

The International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD) was a global consultative process with the participation of hundreds of experts from all UN regions (more than 100 countries) in an intergovernmental process co-sponsored by FAO, GEF, UNDP, UN Environment, UNESCO, the World Bank and WHO. IAASTD addressed issues of sustainable development and agriculture via focus on this question: *“How can we reduce hunger and poverty, improve rural livelihoods, and facilitate equitable, environmentally, socially and economically sustainable development through the generation, access to, and use of agricultural knowledge, science and technology?”*¹³

IAASTD noted that the business as usual agricultural model is to, *“continuously innovate, reduce farm gate prices and externalize costs”* and concludes that, *“Business as usual is no longer an option.”*¹⁴ An important shift is to recognize farmers and their communities as *“producers and managers of ecosystems.”* This internalizes costs and enhances sustainability while maintaining productivity.

Key IAASTD recommendations relevant to the Beyond 2020 process and its contributions to Agenda 2030 include:

- Reduce agrochemical inputs (particularly pesticides and synthetic fertilizers)
- Use energy, water and land more efficiently (not only as in precision agriculture, but also as in agroecology)
- Use agroecological management approaches
- Internalize the environmental cost of unsustainable practices and avoid those that promote the wasteful use of inputs (pesticides and fertilizers)
- Regulate environmentally damaging practices and develop capacities for institutional changes that ensure monitoring and evaluation of compliance mechanisms
- Adjust intellectual property rights (IPR) and related frameworks to allow farmers to manage their seeds and germplasm resources as they wish

Consideration might be given to additional SAICM Beyond 2020 initiatives associated with SDG2 as proposed in SAICM Global Plan of Action activities 23 – 42, 46, 50-53, 65, 68, 89, 92, 93, 97, 114-117, 120, 132, 158 – 160, 202, and 228, along with measurable objectives described below.

¹² De Schutter O (2010) Report submitted the Special Rapporteur on the Right To Food, Human Rights Council, 16th session, A/HRC/16/49

¹³ UNDP, FAO, UNEP, UNESCO, World Bank, WHO, GEF (2009) Synthesis Report, International Assessment of Agricultural Knowledge, Science and Technology for Development, ISBN 978-1-59726-550-8
[http://www.unep.org/dewa/agassessment/reports/IAASTD/EN/Agriculture%20at%20a%20Crossroads_Synthesis%20Report%20\(English\).pdf](http://www.unep.org/dewa/agassessment/reports/IAASTD/EN/Agriculture%20at%20a%20Crossroads_Synthesis%20Report%20(English).pdf)

¹⁴ UNDP, FAO, UNEP, UNESCO, World Bank, WHO, GEF (2009) Synthesis Report, International Assessment of Agricultural Knowledge, Science and Technology for Development, ISBN 978-1-59726-550-8
[http://www.unep.org/dewa/agassessment/reports/IAASTD/EN/Agriculture%20at%20a%20Crossroads_Synthesis%20Report%20\(English\).pdf](http://www.unep.org/dewa/agassessment/reports/IAASTD/EN/Agriculture%20at%20a%20Crossroads_Synthesis%20Report%20(English).pdf)

Sustainable Development Goal 3: Ensure healthy lives and promote well-being for all at all ages

Targets under SDG3 include:

3.4: *“reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being”*

3.9: *“substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.”*

The SAICM Dubai Declaration expresses, *“concern about the long-term effects of chemicals on both human health and the environment”* and recognizes the need to protect vulnerable groups including, *“children and the unborn child from chemical exposures that impair their future lives.”*¹⁵

The SAICM Overarching Policy Strategy notes that, *“Risk reduction (including preventing, reducing, remediating, minimizing and eliminating risks) is a key need in pursuing the sound management of chemicals throughout their entire life cycle including, where appropriate, products and articles containing chemicals.”*¹⁶ The Overarching Policy Strategy recognizes that, *“Risk reduction measures need to be improved to prevent the adverse effects of chemicals on the health of children, pregnant women, fertile populations, the elderly, the poor, workers and other vulnerable groups and susceptible environments.”*¹⁷ Finally, the Overarching Policy Strategy emphasizes the need to *“give priority consideration to the application of preventive measures such as pollution prevention.”*¹⁸

All SAICM’s Emerging Policy Issues and its Issues of Concern are highly relevant to addressing SDG3, including: lead in paint, chemicals in products, hazardous chemicals in the lifecycle of electrical and electronic products, nanotechnologies and manufactured nanomaterials, endocrine disrupting chemicals, environmentally persistent pharmaceutical pollutants and highly hazardous pesticides.

In the past, most of SAICM’s initiatives on Emerging Policy Issues and Issues of Concern have focused primarily on defining an issue and raising awareness about it. The major exception has been on the issue of lead in paint. On this issue, SAICM fostered an active, global, multi-stakeholder partnership – the Global Alliance to Eliminate Lead Paint – which is successfully encouraging companies to stop manufacturing and selling lead paints and encouraging governments to enact regulatory controls and providing tools to stakeholders to achieve actual change on the ground. Substantial measurable reductions in the manufacture and sales of lead paints have already been achieved and more can be anticipated. These primary prevention achievements translate easily into measurable reductions in lead exposures of future generations, and these in turn, translate into reduced incidents of mental impairments, cardiovascular disease and other non-communicable diseases.

Beyond 2020, SAICM should seek to develop and implement plans of action addressing other Emerging Policy Issues and Issues of Concern that can also achieve measurable risk-reduction results aimed at

¹⁵ UNEP - WHO (2006) Strategic Approach to International Chemicals Management

http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

¹⁶ UNEP - WHO (2006) Overarching Policy Strategy para 7, Strategic Approach to International Chemicals Management http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

¹⁷ UNEP - WHO (2006) Overarching Policy Strategy para 7c, Strategic Approach to International Chemicals Management http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

¹⁸ UNEP - WHO (2006) Overarching Policy Strategy para 14f, Strategic Approach to International Chemicals Management http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

reducing premature mortality from non-communicable diseases; at promoting mental health and well-being¹⁹; and/or at reducing the number of deaths and illnesses from hazardous chemicals and pollution.

In addition to SAICM's present list of Emerging Policy Issues and Issues of Concern, consideration might be given to other risk-reduction initiatives from SAICM's Global Plan of Action such as: 4, 5, 6, 7 – 10, 11 – 21, 35, 57 – 67, 72, 74 – 79, 87, 138 – 153, 221, 237, 245 – 246, 255, and 260, along with measurable objectives described below.

Sustainable Development Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Targets under SDG4 include:

4.3: *“ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university.”*

The SAICM Overarching Policy Strategy notes the need implement measures to strengthen knowledge and information including, *“improved education, training and awareness-raising activities aimed at those who may be exposed to toxic substances at any stage in the life cycle of chemicals...”*²⁰ The Global Plan of Action has items specifically relating education to promote sustainability (83), improve communication (110), children's chemical safety (150), GHS (154), occupational health and safety (155), and safety of waste handlers and recyclers (161).

Sustainable Development Goal 5: Achieve gender equality and empower all women and girls

Targets under SDG5 include:

5.1: *“End all forms of discrimination against all women and girls everywhere”*

5.5: *“Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life.”*

5a: *“Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws.”*

5c: *“Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels.”*

Rio Principle 20 states, *“Women have a vital role in environmental management and development. Their full participation is therefore essential to achieve sustainable development.”*²¹ In 2006, this principle was fully embedded in the SAICM documents that demonstrate the intimate links between chemical safety and sustainable development.

The SAICM Dubai Declaration commits governments to, *“work towards effective and efficient governance of chemicals management by means of transparency, public participation and accountability*

¹⁹ Exposure to lead, mercury, endocrine disrupting chemicals and other neuro-toxic substances significantly impair mental health

²⁰ UNEP - WHO (2006) Strategic Approach to International Chemicals Management, para 10
http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

²¹ United Nations Conference on Environment and Development (1992) Rio Declaration on environment and development, <http://www.unep.org/documents.multilingual/default.asp?documentid=78&articleid=1163>

involving all sectors of society, in particular striving for the equal participation of women in chemicals management."²²

SAICM's Overarching Policy Strategy notes that, "*in many countries some stakeholders, particularly women and indigenous communities, still do not participate in all aspects of decision-making related to the sound management of chemicals, a situation which needs to be addressed*" and it indicates the importance of public participation in decision-making, "*featuring in particular a strengthened role for women.*"²³ The SAICM Overarching Policy Strategy also states that risk reduction measures need to be improved, "*to prevent the adverse effects of chemicals on the health of children, pregnant women, fertile populations, the elderly, the poor, workers and other vulnerable groups and susceptible environments.*"²⁴ Finally, one of the SAICM Overarching Policy Strategy objectives is, "*To ensure equal participation of women in decision-making on chemicals policy and management.*"²⁵

The Stockholm Convention preamble also addresses this linkage. It notes, "*health concerns, especially in developing countries, resulting from local exposure to persistent organic pollutants, in particular impacts upon women and, through them, upon future generations.*"²⁶ The treaty obligates governments to, "*consult their national stakeholders, including women's groups and groups involved in the health of children, in order to facilitate the development, implementation and updating of their implementation plans.*"²⁷ The Stockholm Convention instructs Parties, with their capabilities to promote and facilitate, "*Development and implementation, especially for women, children and the least educated, of educational and public awareness programmes on persistent organic pollutants, as well as on their health and environmental effects and on their alternatives.*"²⁸

For more information on women and chemical safety, please see the IPEN paper, "Beyond 2020: Women and chemical safety."

Sustainable Development Goal 6: Ensure availability and sustainable management of water and sanitation for all

Targets under SDG6 include:

6.3: "*improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.*"

²² UNEP - WHO (2006) Dubai Declaration, para 18, Strategic Approach to International Chemicals Management http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

²³ UNEP - WHO (2006) Overarching Policy Strategy, para 2, 9, Strategic Approach to International Chemicals Management http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

²⁴ UNEP - WHO (2006) Overarching Policy Strategy, para 7, Strategic Approach to International Chemicals Management http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

²⁵ UNEP - WHO (2006) Overarching Policy Strategy, para 16, Strategic Approach to International Chemicals Management http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

²⁶ Stockholm Convention preamble, <http://chm.pops.int/TheConvention/Overview/TextoftheConvention/tabid/2232/Default.aspx>

²⁷ Stockholm Convention Article 7, <http://chm.pops.int/TheConvention/Overview/TextoftheConvention/tabid/2232/Default.aspx>

²⁸ Stockholm Convention Article 10, <http://chm.pops.int/TheConvention/Overview/TextoftheConvention/tabid/2232/Default.aspx>

The Dubai Declaration states, “Progress in chemicals management has not, however, been sufficient globally and the environment worldwide continues to suffer from air, water and land contamination, impairing the health and welfare of millions.”²⁹

In the SAICM Overarching Policy Strategy, three of the Risk Reduction objectives clearly relate to SDG6:

- To give priority consideration to the application of preventive measures such as pollution prevention;
- To reduce the generation of hazardous waste, both in quantity and toxicity, and to ensure the environmentally sound management of hazardous waste, including its storage, treatment and disposal;
- To promote the environmentally sound recovery and recycling of hazardous materials and waste;

At ICCM4, environmentally persistent pharmaceutical pollutants – an issue that relates primarily to water pollution – was adopted as a SAICM Emerging Policy Issue. In addition, in the SAICM Global Plan of Action, activity 203 is about evaluating pollutant releases to air, land, and water.

More generally, reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials is a centrally important aspect of the sound management of chemicals and wastes. It is also of central importance to the minimization of significant adverse impacts on the environment and human health associated with exposures to hazardous chemicals and wastes. SAICM Beyond 2020 can therefore further develop future SAICM initiatives and plans of action associated with SDG7.

Sustainable Development Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

Targets under SDG8 include:

8.8: “Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.”

Workers are a key stakeholder in the Strategic Approach, as noted in the Overarching Policy Strategy and as indicated by trade union representation in the SAICM Bureau.

The SAICM Dubai Declaration notes that one of the reasons to take concerted action on toxic chemicals is, “exposure of workers to harmful chemicals and concern about the long-term effects of chemicals on both human health and the environment.”³⁰

Workers have an especially important need – often denied them – to have full access to information about the chemicals they use and about the hazards those chemicals pose. The SAICM Dubai Declaration states, “We stress the responsibility of industry to make available to stakeholders such data and information on health and environmental effects of chemicals as are needed safely to use chemicals and the products made from them”³¹

²⁹ UNEP - WHO (2006) Strategic Approach to International Chemicals Management
http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

³⁰ UNEP - WHO (2006) Strategic Approach to International Chemicals Management
http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

³¹ UNEP - WHO (2006) Strategic Approach to International Chemicals Management
http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

The SAICM Overarching Policy Strategy takes up several topics related to establishing safe and secure working environments. A SAICM Overarching Policy Strategy Risk Reduction objective is, *“To minimize the risks to human health, including that of workers, and to the environment throughout the lifecycle of chemicals.”*³²

A SAICM Overarching Policy Strategy Governance objective is, *“To promote and support meaningful and active participation by all sectors of civil society, particularly women, workers and indigenous communities, in regulatory and other decision-making processes that relate to chemical safety.”*³³

The SAICM Overarching Policy Strategy also addresses access to information and, in fact, contains an entire section on Knowledge and Information Objectives. This includes, as an objective, to ensure, for all stakeholders, *“That information on chemicals throughout their life cycle, including, where appropriate, chemicals in products, is available, accessible, user friendly, adequate and appropriate to the needs of all stakeholders. Appropriate types of information include their effects on human health and the environment, their intrinsic properties, their potential uses, their protective measures and regulation.”*

SAICM Overarching Policy Strategy Principles and Approaches state that in implementing the Strategic Approach, governments and other stakeholders should be guided by, inter alia, *“ILO Convention No. 170 concerning safety in the use of chemicals at work.”*

The Executive Summary also states that under SAICM’s risk reduction objective, work areas aimed at protecting human health and the environment would include the development of action plans to address priority concerns in relation to groups with specific vulnerabilities, including workers: *“Occupational health and safety for workers would be promoted through measures such as the establishment of national inspection systems and implementation of adequate occupational health and safety standards to minimize workplace hazards from chemicals.”*³⁴

The Executive Summary also states that central to the Strategic Approach's governance objectives would be measures to review national legislation in order to ratify and implement existing international agreements dealing with chemicals and hazardous wastes such as [inter alia] ... *“the International Labour Organization conventions on the protection of workers.”*³⁵

Under SAICM’s Global Plan of Action:

Item 20 notes the need to, *“protect workers from chemicals causing asbestosis, other asbestos related diseases and occupational cancers, those chemicals included in the Rotterdam Convention because of their occupational risks and other hazardous chemicals based on their occupational health risks.”*³⁶

³² UNEP - WHO (2006) Strategic Approach to International Chemicals Management
http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

³³ UNEP - WHO (2006) Strategic Approach to International Chemicals Management
http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

³⁴ UNEP - WHO (2006) Strategic Approach to International Chemicals Management
http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

³⁵ UNEP - WHO (2006) Strategic Approach to International Chemicals Management
http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

³⁶ UNEP - WHO (2006) Strategic Approach to International Chemicals Management
http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

Item 147 stresses, *“the importance of worker’s right to know in all sectors (formal and informal), i.e., that the information provided to workers should be sufficient for them to protect their safety and health as well as the environment.”*³⁷

SAICM Beyond 2020 can do much more than has been done in the past to promote initiatives aimed at ensuring safe and secure working environments for all workers. In some cases, these might be the promotion of workplace-focused activities on subjects that have already been identified as Emerging Policy Issues and Issues of Concern such as: highly hazardous pesticides; hazardous substances in electronics (aimed at preventing toxic exposures to workers both at the point of production and also during end-of-life waste management and recovery); nanotechnologies and nanomaterials; and chemicals in products.

Sustainable Development Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

Targets under SDG9 include:

9.4: *“greater adoption of clean and environmentally sound technologies and industrial processes.”*

The SAICM Dubai Declaration notes the need to develop, *“safer alternative products and processes, including non-chemical alternatives.”*³⁸ In its statement of needs, the SAICM agreement notes the need to develop, *“safer alternatives, including alternatives to chemicals of concern, and affordable sustainable technologies should be accelerated”* and that, *“Developing countries and countries with economies in transition need better access to affordable, safer technologies and alternatives, which will also assist in reducing illegal traffic in hazardous chemicals.”*³⁹ The Statement of Needs also notes the need to strengthen capacities in developing and transition countries and to promote, *“adequate transfer of cleaner and safer technology to those countries.”*⁴⁰ SAICM’s Overarching Policy Strategy includes the need to promote *“cleaner production, informed substitution of chemicals of concern and non-chemical alternatives”* and undertake research to develop, *“safer chemicals and cleaner technologies and non-chemical alternatives and technologies.”*⁴¹ The Global Plan of Action has a series of items that are directed at cleaner production (43 – 46), and other relevant activities are identified in 57, 59, 70, and 78.

For more information on this topic and relevant SAICM issues, please see the IPEN paper, “Beyond 2020: Green chemistry and sustainable chemistry.”

Sustainable Development Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable

Targets under SDG11 include:

³⁷ UNEP - WHO (2006) Strategic Approach to International Chemicals Management

http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

³⁸ UNEP - WHO (2006) Strategic Approach to International Chemicals Management

http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

³⁹ UNEP - WHO (2006) Statement of needs, para 7 Strategic Approach to International Chemicals Management

http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

⁴⁰ UNEP - WHO (2006) Statement of needs, para 10 Strategic Approach to International Chemicals Management

http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

⁴¹ UNEP - WHO (2006) Overarching policy strategy, para 14, 15 Strategic Approach to International Chemicals Management http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

11.6: “reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.”

The SAICM Dubai Declaration notes that, “Progress in chemicals management has not, however, been sufficient globally and the environment worldwide continues to suffer from air, water and land contamination, impairing the health and welfare of millions.”⁴² Key risk reduction activities in SAICM are, “pollution prevention, risk reduction, and risk elimination.”⁴³ SAICM risk reduction objectives also include reducing, “the generation of hazardous waste, both in quantity and toxicity, and to ensure the environmentally sound management of hazardous waste, including its storage, treatment and disposal.”⁴⁴ Global Plan of Action items relevant to waste management, including zero waste, are outlined in items 68-73, 118, 121, 161-162, 169, 171-172, 187, 234, 258-262, and 272-273.

Note that zero waste is the approach most consistent with fulfillment of sustainable waste management objectives because it addresses sustainable resource management. Zero waste is defined as, “a goal that is ethical, economical, efficient and visionary, to guide people in changing their lifestyles and practices to emulate sustainable natural cycles, where all discarded materials are designed to become resources for others to use. Zero Waste means designing and managing products and processes to systematically avoid and eliminate the volume and toxicity of waste and materials, conserve and recover all resources, and not burn or bury them. Implementing Zero Waste will eliminate all discharges to land, water or air that are a threat to planetary, human, animal or plant health.”⁴⁵

Key sources of air pollution in cities include transportation; power generation (including waste to energy); incineration, gasification, pyrolysis and co-incineration in cement kilns; industrial operations; and home heating using biomass or coal. In the SAICM framework, the priority approach for addressing these and other sources should be pollution prevention.

In addressing the issue of transport-related air pollution in cities, clean public transportation should be promoted. Insofar as private internal combustion vehicles remain in use, attention should be given to promoting cleaner fuels including electric, natural gas and hybrid vehicles – and eventually, hydrogen-fueled vehicles. An important topic for consideration is the sulfur content of diesel fuel. High sulfur fuels release sulfur oxides which act as precursors to the formation of PM_{2.5} and other particles that are released during diesel combustion. It is common for diesel fuels sold in developing countries to contain high levels of sulfur, which increases their contribution to air pollution.⁴⁶ A recent report reveals that international petrochemical companies exploit weak regulatory standards and sell diesel fuel in Africa that have as much as 378 times more sulfur than is permitted in Europe.⁴⁷ These fuels may also contain levels of benzene and PAHs that violate European standards.⁴⁸ Regulatory measures can also limit the

⁴² UNEP - WHO (2006) Dubai Declaration, para 5, Strategic Approach to International Chemicals Management http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

⁴³ UNEP - WHO (2006) Overarching Policy Strategy para 14, Strategic Approach to International Chemicals Management http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

⁴⁴ UNEP - WHO (2006) Overarching Policy Strategy para 14, Strategic Approach to International Chemicals Management http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

⁴⁵ <http://zwia.org/standards/zw-definition/>

⁴⁶ UNEP (2005) Opening the door to cleaner vehicles in developing and transition countries: The role of lower sulphur fuels, Report of the Sulphur Working Group of the Partnership for Clean Fuels and Vehicles

⁴⁷ Public Eye (2016) Dirty Diesel: How Swiss traders flooded Africa with toxic fuels, https://www.publiceye.ch/fileadmin/files/documents/Rohstoffe/DirtyDiesel/PublicEye2016_DirtyDiesel_A-Public-Eye-Investigation.pdf

⁴⁸ Public Eye (2016) Dirty Diesel: How Swiss traders flooded Africa with toxic fuels, https://www.publiceye.ch/fileadmin/files/documents/Rohstoffe/DirtyDiesel/PublicEye2016_DirtyDiesel_A-Public-Eye-Investigation.pdf

amount of sulfur and toxic chemicals contained in petrol and can in other ways mandate cleaner-burning fuels. Another matter of concern to public health is the continuing use of lead in aviation fuel, contributing to airborne lead contamination that may adversely affect communities in the vicinity of airfields.

Efforts to control mercury releases from coal-fired power plants under the Minamata Convention provide co-benefits and reductions in other forms of air pollution. Shifting to combustion-free energy sources such as solar and wind is not only consistent with the Minamata Convention and the Framework Convention on Climate Change, but would also implement many elements of SAICM's Overarching Policy Strategy, including the promotion of "*cleaner production, informed substitution of chemicals of concern and non-chemical alternatives*" and undertaking research to develop, "*safer chemicals and cleaner technologies and non-chemical alternatives and technologies.*" Many Global Plan of Action items are directed at industry responsibility to adopt more sustainable practices, including 11 – 23, 26, 30, 40, 43 – 46, 57, 59, 70, and 78.

Chemicals in products (including lead, mercury, many plastics and others) are examples of commonly burned materials in incinerators and for energy production that contribute to urban air pollution. The toxicity of chemicals used to manufacture many plastic products and packaging undermines the goal of recycling and has the potential to poison the circular economy. Furthermore, using plastic waste for energy, refuse-derived fuel or co-incineration in cement kilns and other industrial burners contributes to the toxicity of our environment and human health on a global scale. The global human health and environmental impacts of this problem are acutely and disproportionately felt in the Asia Pacific region, making a compelling and urgent argument for toxics elimination in plastic production and a ban on plastic waste burning technologies. SAICM has a key role in promoting safer chemicals policy through toxics reduction, elimination and substitution to avoid and ultimately eliminate the adverse toxic impacts embedded throughout the whole life cycle of plastic products and packaging from raw materials extraction, use and final disposal.

Sustainable Development Goal 12: Ensure sustainable consumption and production patterns

Targets under SDG12 include:

12.3: "*By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.*"

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

12.5: "*substantially reduce waste generation through prevention, reduction, recycling and reuse.*"

12.6: "*Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.*"

12.7: "*Promote public procurement practices that are sustainable, in accordance with national policies and priorities.*"

SDG12.4 is a paraphrase of the SAICM objective. In addition, SAICM's Overarching Policy Strategy highlights the need to, "*reduce the generation of hazardous waste, both in quantity and toxicity, and to ensure the environmentally sound management of hazardous waste, including its storage, treatment and*

*disposal.*⁴⁹ SAICM also seeks to prevent illegal traffic of wastes. The SAICM Global Plan of Action has activities addressing waste prevention and minimization, waste reduction at source, and zero waste resource management. Many Global Plan of Action items are directed at wastes, including: 68 – 73, 118, 121 – 122, 161 – 161, 169, 171 – 172, 186 – 187, 234, 258 – 271, and 272 – 273.

Industry adoption of sustainable practices runs throughout the SAICM agreement. In its statement of needs, the SAICM agreement notes the need to develop, “*safer alternatives, including alternatives to chemicals of concern, and affordable sustainable technologies should be accelerated*” and that, “*Developing countries and countries with economies in transition need better access to affordable, safer technologies and alternatives, which will also assist in reducing illegal traffic in hazardous chemicals.*”⁵⁰ SAICM’s Overarching Policy Strategy includes the need to promote, “*cleaner production, informed substitution of chemicals of concern and non-chemical alternatives*” and undertake research to develop, “*safer chemicals and cleaner technologies and non-chemical alternatives and technologies.*”⁵¹ The SAICM Global Plan of Action calls for, “*Promoting alternatives in order to reduce and phase out highly toxic pesticides.*” The Global Plan of Action items directed at industry’s responsibility to adopt more sustainable practices include 11 – 23, 26, 30, 40, 43 – 46, 57, 59, 70, and 78.

The SAICM Global Plan of Action #26 also identifies the need to prioritize procurement of, “*least hazardous pest control measures and use best practices to avoid excessive or inappropriate supplies of chemicals.*” An international workshop on hazardous chemicals in the lifecycle of electrical and electronic products mandated by ICCM also included the need for, “*green electrical and electronic product procurement initiatives*” and government procurement policies that that promote “*cleaner*” electrical and electronic equipment, “*being purchased and used whenever possible.*”⁵²

For further information on topics relevant to SAICM and this SDG please see IPEN papers, “Beyond 2020: Why SAICM is important” and “Beyond 2020: Raising the political priority of chemical safety.”

Sustainable Development Goal 13: Take urgent action to combat climate change and its impacts

Targets under SDG13 include:

13.1: “*Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.*”

In 2009, the Stockholm Convention’s Global Monitoring Plan recognized the importance of climatic effects on POPs. The 4th Conference of the Parties of the Stockholm Convention subsequently mandated a study of the issue. In 2011, UNEP and the Arctic Monitoring and Assessment Programme (one of the Arctic Council’s working groups) released a study of climate change and POPs. The report notes that climate change can increase both primary and secondary emissions of POPs and that the resulting

⁴⁹ UNEP - WHO (2006) Overarching Policy Strategy para 14h, Strategic Approach to International Chemicals Management http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

⁵⁰ UNEP - WHO (2006) Statement of needs, para 7 Strategic Approach to International Chemicals Management http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

⁵¹ UNEP - WHO (2006) Overarching policy strategy, para 14, 15 Strategic Approach to International Chemicals Management http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

⁵² UNEP (2012) Report of the International workshop on hazardous substances within the life-cycle of electrical and electronic products, held in Vienna, from 29 to 31 March 2011, SAICM/ICCM.3/INF/24

increased exposure would, “*increase the risks related to their harmful effects.*”⁵³ The report makes recommendations that are relevant to SAICM efforts, including cleanup of contaminated sites, improved waste management, and controls on e-waste export and dumping.

Sustainable agriculture also has clear links to climate change actions that are relevant to SAICM. Work on climate-resilient agriculture recommends integrated practices that include agroforestry and minimizing, “*the need for external inputs (e.g. energy, chemical fertilizers and pesticides).*”⁵⁴ The International Panel of Experts on Sustainable Food Systems (IPES-Food) also documents the need for a shift to agroecological systems, noting that, “*60% of the food consumed around the world comes from small-holder agriculture in developing countries where crop diversity is key for the resilience of farming systems.*”⁵⁵

Sustainable Development Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Target under SDG14 includes:

14.1: “*By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.*”

The SAICM Overarching Policy Strategy includes, “*pollution prevention, risk reduction, and risk elimination*” in its objectives, including by giving, “*priority consideration to the application of preventive measures such as pollution prevention.*”⁵⁶ The Global Plan of Action includes government activities to address pollution prevention (Items 46 and 73) and marine ecosystem management (Item 120). One key aspect of marine pollution addressed by the Minamata Convention and SAICM is mercury pollution. The SAICM Global Plan of action includes reduction of risks posed to human health and the environment from mercury (Items 57 – 60). The Minamata Convention recognizes, “*that mercury is a chemical of global concern owing to its long-range atmospheric transport, its persistence in the environment once anthropogenically introduced, its ability to bioaccumulate in ecosystems and its significant negative effects on human health and the environment.*”⁵⁷ The Convention, recognizes, “*the substantial lessons of Minamata Disease, in particular the serious health and environmental effects resulting from the mercury pollution, and the need to ensure proper management of mercury and the prevention of such events in the future.*”⁵⁸

Fresh fish may contain disturbingly high levels of mercury, POPs, and other harmful substances. In the Pacific Small Island Developing States (SIDS), it is common for the ocean’s natural resources to be harvested by distant nation fishing vessels (which sometimes benefit from state-subsidized fuel) under bilateral agreements. Such bilateral agreements often permit unsustainable fishing practices (such as purse-seining) that are not permitted in the home country. Because of the high price obtained for fresh fish on the international market, increasing amounts are exported to developed countries (for example EU,

⁵³ UNEP/AMAP, 2011. Climate Change and POPs: Predicting the Impacts. Report of the UNEP/AMAP Expert Group. Secretariat of the Stockholm Convention, Geneva. 62 pp <http://www.amap.no/documents/doc/climate-change-and-pops-predicting-the-impacts/753>

⁵⁴ <http://www.fao.org/climate-smart-agriculture/knowledge/practices/integrated/en/>

⁵⁵ IPES-Food (2016) From uniformity to diversity: A paradigm shift from industrial agriculture to diversified agroecological systems. International Panel of Experts on Sustainable Food Systems http://www.ipes-food.org/images/Reports/UniformityToDiversity_FullReport.pdf

⁵⁶ UNEP - WHO (2006) Overarching policy strategy, para 14, Strategic Approach to International Chemicals Management http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

⁵⁷ Minamata Convention <http://mercuryconvention.org/Convention/tabid/3426/Default.aspx>

⁵⁸ Minamata Convention <http://mercuryconvention.org/Convention/tabid/3426/Default.aspx>

Japan, US) while SIDs and coastal populations subsist largely on canned fish because it is more affordable. The irony is that the populations in developed countries that are responsible for industrial pollution (including mercury emissions from coal-fired power plants) may be exposing themselves to mercury and other pollutants transferred by long-range transport to the global oceans by consumption of imported fish.

Deep sea mining is also raising concerns about damage to the marine environment. Harvesting polymetallic nodules will not only result in a potentially damaging plume, but also, wastewater produced by “de-watering” can adversely impact marine ecosystems. Countries avoid surveillance by the International Seabed Authority by seeking bilateral agreements with Pacific Island governments. Damage to ecosystems should be part of the true cost estimation for this activity.

Plastics are another key type of marine pollution. UN Environment has identified plastic marine pollution (and particularly microplastics) as a major global environmental threat.⁵⁹ The Asia Pacific region has been identified as a major region leaking plastic waste into our ocean, with estimates suggesting that there will be more plastic in our oceans than fish by 2050.⁶⁰ Plastics in the marine environment, particularly microplastics, concentrate toxic pesticides and other industrial chemicals at much higher levels than in surrounding waters. Microplastics are readily ingested by marine organisms and therefore also pose a hazard to human health because they could be a significant route of exposure to endocrine-disrupting and carcinogenic chemicals.⁶¹ SAICM has a key role in promoting safer chemicals policy through toxics reduction, elimination and substitution to avoid and ultimately eliminate the adverse toxic impacts embedded throughout the whole life cycle of plastic products and packaging from raw materials extraction, use and final disposal. The toxicity of chemicals used to manufacture many plastic products and packaging undermines the goal of recycling and has the potential to poison the circular economy. Furthermore, using plastic waste for energy, RDF or co-incineration in cement kilns and other industrial burners contributes to the toxicity of our environment and human health on a global scale. The global human health and environmental impacts of this problem are acutely and disproportionately felt in the Asia Pacific region, making a compelling and urgent argument for toxics elimination in plastic production and a ban on plastic waste burning technologies.

Sustainable Development Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Targets under SDG15 include:

15.1: *“By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements.”*

15.2: *“By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally.”*

⁵⁹ UNEP (2016) Marine Plastic Debris and microplastics. Global lessons and research to inspire action and guide policy change.

<http://www.unep.org/about/sgb/Portals/50153/UNEA/Marine%20Plastic%20Debris%20and%20Microplastic%20Technical%20Report%20Advance%20Copy.pdf>

⁶⁰ Ellen MacArthur Foundation (2016) The New Plastics Economy: Rethinking the New Plastics Economy.

⁶¹ <https://www.ellenmacarthurfoundation.org/publications/the-new-plastics-economy-rethinking-the-future-of-plastics>

15.3: “By 2030, combat desertification, restore degraded land and soil...”

15.5: “Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.”

15.9: “By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts.”

This SDG is relevant to harms to human health and the environment posed by contaminated sites and overall chemicals and wastes pollution on land – a significant issue in many countries. Ocean ecosystems are also profoundly impacted by land-based activities that result in pollution. For Pacific SIDS and many other developing countries, poor waste management has resulted in historical dumping of imported goods that contain toxic components (including e-waste) that have become hazardous wastes when discarded. Because of their porous geology, the resulting leachate from old dumps is a significant issue for SIDS because they leach into the waterways and into the surrounding lagoons and oceans. Persistent toxic substances in these leachates are taken up by the marine life, which provides ready food for subsistence fishermen. Ecosystem sampling is required so that policymakers and decision-makers can confidently formulate policies for the benefit of their populations, and to take actions to reduce exposure to toxics by implementing sustainable management of both solid wastes and sanitation.

One of the SAICM Global Plan of Action priority areas is, “Promoting the remediation of contaminated sites,” and GPA items 47, 48, and 243 concern identification and remediation of contaminated sites to reduce potential harms to the public and the environment. Both the Stockholm and Minamata Conventions require governments to endeavor to develop appropriate strategies for identifying contaminated sites and insure their management is performed in a manner protective of human health and the environment.

The forestry components of this SDG are also relevant to SAICM. FAO has noted the importance of agroforestry systems and the importance of managing soil nutrients to reduce fertilizer use.⁶² FAO also notes the role of agroforestry in, “providing shelter to natural enemies and making use of crops and trees’ complementary pest resistance mechanisms, agroforestry reduces the need for pesticides.”⁶³

Sustainable Development Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

Targets under SDG16 include:

16.7: “Ensure responsive, inclusive, participatory and representative decision-making at all levels.”

16.10: “Ensure public access to information...”

A key objective of the SAICM Overarching Policy Strategy is the involvement of all stakeholders at the local, regional, and global levels, “and public participation in decision-making, featuring in particular a strengthened role for women.”⁶⁴ The agreement notes that “knowledge, information, and public awareness are basic needs for decision-making for the sound management of chemicals...”⁶⁵ The SAICM

⁶² <http://www.fao.org/forestry/agroforestry/89999/en/>

⁶³ <http://www.fao.org/forestry/agroforestry/89999/en/>

⁶⁴ UNEP - WHO (2006) Overarching Policy Strategy para 2, Strategic Approach to International Chemicals Management http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

⁶⁵ UNEP - WHO (2006) Overarching Policy Strategy para 8, Strategic Approach to International Chemicals Management http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

agreement notes the need to improve participatory decision-making, noting, *“That in many countries some stakeholders, particularly women and indigenous communities, still do not participate in all aspects of decision-making related to the sound management of chemicals, a situation which needs to be addressed”*⁶⁶ A key SAICM Governance objective is, *“To promote and support meaningful and active participation by all sectors of civil society, particularly women, workers and indigenous communities, in regulatory and other decision-making processes that relate to chemical safety”* and, *“To ensure equal participation of women in decision-making on chemicals policy and management.”*⁶⁷

The Stockholm Convention underlines the importance of manufacturers to, *“take responsibility for reducing adverse effects caused by their products and for providing information to users, Governments, and the public on the hazardous properties of those chemicals.”*⁶⁸ Article 9 of the treaty states that, *“For the purposes of this Convention, information on health and safety of humans and the environment shall not be regarded as confidential.”*⁶⁹ The Stockholm Convention obligates Parties, within their capabilities, to promote and facilitate, *“Provision to the public of all available information on persistent organic pollutants”* and, *“Development and implementation, especially for women, children and the least educated, of educational and public awareness programmes on persistent organic pollutants, as well as on their health and environmental effects and on their alternatives.”*⁷⁰ The Minamata Convention clearly states that, *“For the purposes of this Convention, information on the health and safety of humans and the environment shall not be regarded as confidential.”*⁷¹ The SAICM Dubai Declaration notes the, *“responsibility of industry to make available to stakeholders such data and information on health and environmental effects of chemicals”* and commits to, *“facilitate public access to appropriate information and knowledge on chemicals throughout their life cycle, including the risks that they pose to human health and the environment.”*⁷² SAICM reinforces the chemical safety principle that, *“information on chemicals relating to the health and safety of humans and the environment should not be regarded as confidential.”*⁷³ SAICM’s statement of needs notes that, *“There is often limited or no information on many chemicals currently in use and often limited or no access to information that already exists”* and states that, *“Knowledge, information and public awareness are basic needs for decision-making for the sound management of chemicals, including products and articles containing chemicals.”*⁷⁴

Sustainable Development Goal 17. Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

⁶⁶ UNEP - WHO (2006) Overarching Policy Strategy para 9, Strategic Approach to International Chemicals Management http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

⁶⁷ UNEP - WHO (2006) Overarching Policy Strategy para 16, Strategic Approach to International Chemicals Management http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

⁶⁸ Stockholm Convention preamble, <http://chm.pops.int/TheConvention/Overview/TextoftheConvention/tabid/2232/Default.aspx>

⁶⁹ Stockholm Convention Article 9 para 5, <http://chm.pops.int/TheConvention/Overview/TextoftheConvention/tabid/2232/Default.aspx>

⁷⁰ Stockholm Convention Article 10, <http://chm.pops.int/TheConvention/Overview/TextoftheConvention/tabid/2232/Default.aspx>

⁷¹ Minamata Convention, Article 17, <http://mercuryconvention.org/Convention/tabid/3426/Default.aspx>

⁷² UNEP - WHO (2006) Dubai Declaration para 20, 21, Strategic Approach to International Chemicals Management http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

⁷³ UNEP - WHO (2006) Dubai Declaration para 22, Strategic Approach to International Chemicals Management http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

⁷⁴ UNEP - WHO (2006) Statement of Needs, para 6, 8, Strategic Approach to International Chemicals Management http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

Targets under SDG17 include:

17.2: *“Developed countries to implement fully their official development assistance commitments, including the commitment by many developed countries to achieve the target of 0.7 per cent of gross national income for official development assistance (ODA/GNI) to developing countries and 0.15 to 0.20 per cent of ODA/GNI to least developed countries; ODA providers are encouraged to consider setting a target to provide at least 0.20 per cent of ODA/GNI to least developed countries.”*

17.3: *“Mobilize additional financial resources for developing countries from multiple sources.”*

Financial considerations are a key part of ensuring that developing and transition countries can meet their obligations under chemicals agreements – and this connects financial resources directly to fulfillment of the relevant SDGs. The SAICM Overarching Policy Strategy that was adopted in 2006 acknowledged that access to considerable financial and other resources will be needed to achieve the sound management of chemicals.⁷⁵ However, these funds never materialized on a scale commensurate with the need.

Substantial new and additional funds will be required for full and robust implementation of SAICM and relevant SDGs in the world’s developing and transition countries. The measures to be implemented must be sustained on a continuing basis. Therefore, revenue flows to support national chemicals management programs and infrastructures must also be long-term and sustainable. A realistic approach to mobilizing resources on the scale needed for robust SAICM implementation must be developed.

UN Environment developed an integrated approach to financing sound management of chemicals and wastes that includes some elements that could be developed further. However, this has not yet provided a large influx of financial support for SAICM implementation. Donor government delegates at SAICM preparatory meetings raised expectations that international development assistance agencies would provide substantial funding for SAICM implementation. This has not yet occurred on a significant scale and needs to be further pursued.

Industry involvement is vaguely defined in the integrated approach but several aspects are noted, including fines, cost recovery measures, and tax rebates as incentives. One objective is to shift government costs of chemicals management to producers and importers that benefit from these services provided by the government. Three key aspects noted in the integrated approach are command and control, economic instruments (such as cost recovery), and voluntary agreements. Overall, the key to securing sustainable funding for chemical safety is the internalization of costs within relevant producer industries. This is because the money needed to assure that chemicals are safely managed is, ultimately, the responsibility of chemical producing industries.

For further information on topics relevant to SAICM and this SDG please see the IPEN paper, “Beyond 2020: Financing chemical safety.”

⁷⁵UNEP, Strategic Approach to International Chemicals Management: SAICM texts and resolutions of the International Conference on Chemicals Management, 2006, p21:
http://www.saicm.org/images/saicm_documents/saicm%20texts/SAICM_publication_ENG.pdf

> 12 Program initiatives with measurable objectives to contribute to achieving Agenda 2030⁷⁶

Beyond 2020 objectives should be clearly measurable with adequate quantitative and qualitative indicators that facilitate a running assessment of the SAICM successes and challenges. Each initiative below will produce meaningful real world outcomes as highlighted in their clearly measurable objectives. These objectives should be used to develop meaningful indicators and plans of action.

1. Lead in paint

Relevant SDG(s): 3, 16

The Global Alliance to Eliminate Lead Paint is successfully encouraging companies to stop manufacturing and selling lead paints, encouraging governments to enact regulatory controls, and providing tools to stakeholders to achieve actual change on the ground. Substantial measurable reductions in the manufacture and sales of lead paints have already been achieved and more can be anticipated. These primary prevention achievements translate easily into measurable reductions in lead exposures of future generations, and these in turn, translate into reduced incidents of mental impairments, cardiovascular disease and other non-communicable diseases.

Key measurable objectives

1. By 2020, analytical data on lead in paint from 80 developing and transition countries is publicly available as a contribution to enable all countries to: 1) Establish effective legally-binding regulatory controls by 2022 on lead decorative paints and lead paints for other applications most likely to contribute to children's lead exposure; and 2) Establish effective, legally-binding regulatory controls by 2027 prohibiting the use of lead in paint, varnishes, stains, enamels, glazes, primers or other coatings.
2. By 2025, publicly available monitoring of lead content of paint on the market shows that no new decorative paint or paints for other applications most likely to contribute to childhood lead exposure are being sold.
3. By 2027, strategies and guidance on safe management of legacy lead paint have been developed and made publicly available.
4. By 2030, publicly available monitoring shows that no varnishes, lacquers, stains, enamels, glazes, primers or coatings that are being produced, sold, exported, imported or used for any purpose contain lead.

2. Highly hazardous pesticides

Relevant SDG(s): 2, 3, 8

The Dubai Declaration notes that one of the key reasons for taking concerted action on chemical safety concerns is the “*dependency on pesticides in agriculture.*”⁷⁷ In 2015, the ICCM4 adopted Resolution IV/3 establishing Highly Hazardous Pesticides (HHPs) as a SAICM Issue of Global Concern.⁷⁸ Delegates recognized, “*that highly hazardous pesticides cause adverse human health and environmental effects in many countries, particularly in low-income and middle-income countries*” and agreed to take concerted

⁷⁶ For a more comprehensive list of objectives outlining chemical safety contributions to achieving relevant Sustainable Development Goals, please see Annex 1.

⁷⁷ UNEP - WHO (2006) Strategic Approach to International Chemicals Management
http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

⁷⁸ UNEP (2015) IV/3 Highly hazardous Pesticides, Report of the International Conference on Chemicals Management on the work of its fourth session, SAICM/ICCM.4/15

efforts to implement a strategy developed by FAO, UNEP, and WHO. Delegates further indicated that this should be done, “*with emphasis on promoting agroecologically based alternatives.*” FAO and WHO have developed technical criteria to define HHPs and the Pesticide Action Network International has also contributed additional criteria to define them.⁷⁹ SAICM Beyond 2020 can contribute to Agenda 2030 by developing a plan of action to implement this FAO, UNEP, WHO strategy with the aim of increasing the agricultural productivity and incomes of small-scale food producers while at the same time achieving significant measurable reductions in human and environmental exposures to HHPs through implementation of agroecology.

Key measurable objectives

1. Identify and make publicly available, environmental and health information on 50 pesticides that should be classified as highly hazardous under the conditions of their ordinary use in 75 developing and transition countries by 2025; 150 countries by 2030.
2. Provide guidance on safer alternatives to HHPs with priority to non-chemical alternatives and ecosystem approaches to sustainable food and fiber production to 50 countries by 2025; 150 countries by 2030.
3. Phase out the manufacture, import, sale and use of 20 highly hazardous pesticides in 50 countries by 2025; 150 countries by 2030.
4. By 2030, provide assistance to 1,000,000 farmers in 100 countries to enable them to discontinue the use of highly hazardous pesticides while maintaining their agricultural livelihood.

3. Chemicals in products

Relevant SDG(s): 3, 8, 16

The SAICM Dubai Declaration states, “*We stress the responsibility of industry to make available to stakeholders such data and information on health and environmental effects of chemicals as are needed safely to use chemicals and the products made from them*”⁸⁰ An objective of the SAICM Overarching Policy Strategy is, “*That information on chemicals throughout their life cycle, including, where appropriate, chemicals in products, is available, accessible, user friendly, adequate and appropriate to the needs of all stakeholders. Appropriate types of information include their effects on human health and the environment, their intrinsic properties, their potential uses, their protective measures and regulation.*”⁸¹ SAICM Beyond 2020 should advance information about chemicals in products through private sector implementation of the agreed chemicals in products programme, monitoring, and by addressing the issue at its source with comprehensive information about chemicals in commerce. Note that a number of lists of chemicals of concern could be useful for further efforts on this topic, including the Substitute It Now (SIN) list⁸² and lists and monitoring results performed by the Danish Consumer Council,⁸³ among others.

Key measurable objectives

1. Monitor 50 chemicals of concern⁸⁴ in consumer products in 75 countries with publicly available results completed by 2025.

⁷⁹ See PAN International list of HHPs, December 2016, in <http://pan-international.org/resources/>

⁸⁰ UNEP - WHO (2006) Strategic Approach to International Chemicals Management http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

⁸¹ UNEP - WHO (2006) Overarching Policy Strategy para 7, Strategic Approach to International Chemicals Management http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

⁸² <http://chemsec.org/business-tool/sin-list/>

⁸³ <http://kemi.taenk.dk/english>

⁸⁴ Groups of chemicals that might be prioritized include persistent, bioaccumulative and toxic substances (PTS); very persistent and very bioaccumulative substances; chemicals that are carcinogens or mutagens or that adversely

2. By 2030, private sector implements the SAICM chemicals in products programme in 150 countries.
3. Private sector publicly provides comprehensive information on adverse effects for all chemicals in commerce by 2030, including mutagenicity, carcinogenicity and adverse effects on the reproductive, developmental, endocrine, immune and nervous systems.

4. Hazardous substances within the lifecycle of electrical and electronic products

Relevant SDG(s): 3, 8, 12

This SAICM emerging policy issue covers design, production and use, and end of life aspects of hazardous chemicals in electrical and electronic products. The issue has focused primarily on electronic waste so far and SAICM Beyond 2020 should turn its attention to the design and production parts of the lifecycle. Few SAICM issues are as pertinent to the public as this one and more attention and work should be conducted to advance recommendations made by the international workshop mandated by ICCM on hazardous substances within the life cycle of electrical and electronic products, hosted by UNIDO and held in Vienna on 29–31 March 2011.

Key measurable objectives

1. By 2025, assess implementation of the 2011 Vienna recommendations on hazardous substances within the lifecycle of electrical and electronic products in 20 countries designing and/or producing electrical and electronic equipment.
2. By 2025, develop and publicly disseminate a list of chemicals of concern to human health and the environment used in electronics production and products.
3. By 2030, 50 countries enact meaningful right to know regulations for workers producing electrical and electronic equipment, including sub-contractors.

5. Endocrine disrupting chemicals (EDCs)

Relevant SDG(s): 3, 16

EDCs are a global and ubiquitous problem. Exposure occurs at home, in the office, on the farm, in the air we breathe, the food we eat, and the water we drink. Despite this widespread exposure, information about EDCs is lacking and difficult to access in developing and transition countries. Regulators cannot identify which substances are EDCs, their presence in media, food, products, etc. is unknown, and in many countries these substances are unregulated. The UNEP / WHO State of the Science report on EDCs outlines the current scientific information and effects on human health and recommends improved testing and reduced exposure.⁸⁵

Key measurable objectives

1. By 2020, UN Environment assembles a list(s) of endocrine disrupting chemicals (EDCs) and potential EDCs and sources of exposure from the UNEP/WHO State of the Science report and other sources and makes it publicly available on its website.

affect, inter alia, the reproductive, endocrine, immune or nervous systems; persistent organic pollutants (POPs), mercury and other chemicals of global concern; chemicals produced or used in high volumes; chemicals subject to wide dispersive uses; and other chemicals of concern at the national level. SAICM Overarching Policy Strategy para 9.

⁸⁵ UNEP, WHO (2013) State of the science of endocrine disrupting chemicals, ISBN: 978-92-807-3274-0 (UNEP) and 978 92 4 150503 1 (WHO) (NLM classification: WK 102)

2. By 2025, conduct monitoring studies of EDCs in 4 – 6 developing and transition countries in four UN regions for a total of 16 – 24 countries.
3. By 2030, monitoring and research results are translated into EDC control actions in 5 developed countries and 3 developing and transition countries in 4 UN regions for a total of 17 countries.

6. Nanotechnologies and manufactured nanomaterials

Relevant SDG(s): 3, 16

Among other items, nanomaterials are present in food, cosmetics, household appliances, computers, mobile phones, pharmaceuticals, textiles, ceramics, construction materials, sports equipment, and military weapons, although no publicly available inventory of nanomaterials in products exists.⁸⁶ There are many uncertainties about the potential harms of nanomaterials, but policies have been primarily focused on accelerating their use with very limited consideration of toxicity or precautionary approaches.^{87 88 89} SAICM Beyond 2020 should address the information issue by working to establish a global inventory of nanomaterials. The safety of nanotechnologies and nanomaterials should be considered in synergy with worker safety issues in SAICM, and include health surveillance of workers in the nanotechnology industry.

Key measurable objectives

1. By 2025, establish a living, publicly available global inventory of nanomaterials on the market.
2. Conduct biomonitoring and health surveillance of workers handling nanomaterials in 15 countries by 2025; 50 countries by 2030.
3. By 2030, the private sector publicly provides comprehensive and verifiable information on adverse effects for all nanomaterials in commerce, including mutagenicity, carcinogenicity and adverse effects on the reproductive, developmental, endocrine, immune and nervous systems.
4. By 2030, support the development of adequate governance and/or regulatory frameworks in 5 countries in 5 UN regions for a total of 25 countries.

7. Environmentally persistent pharmaceutical pollutants (EPPP)

Relevant SDG(s): 3, 7

At ICCM4, environmentally persistent pharmaceutical pollutants – an issue that relates primarily to water pollution – was adopted as a SAICM Emerging Policy Issue. In addition, in the SAICM Global Plan of Action, activity 203 is about evaluating pollutant releases to air, land, and water. More generally, reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials is a centrally important aspect of the sound management of chemicals and wastes. It is also of central

⁸⁶ Foladori G, Invernizzi N, Bejarano F (2012). Social and Environmental Implications of Nanotechnology Development in Latin America and the Caribbean. ReLANS / IPEN/ CMS-UCSB

<http://ipen.org/documents/social-and-environmental-implications-nanotechnology-development-latin-america-and>

⁸⁷ Senjen R, Foladori G, Azoulay D (2013). Social and Environmental Implications of Nanotechnology Development in the Asia Pacific Region. NTN (National Toxics Network Australia) / ReLANS (Latin American Nanotechnology and Society Network) / IPEN

<http://ipen.org/sites/default/files/documents/Social%20and%20Enviro%20Implications%20of%20Nano%20Development%20in%20Asia-Pacific.pdf>

⁸⁸ Musee N, Foladori G, Azoulay D (2012). Social and Environmental Implications of Nanotechnology Development in Africa

<http://ipen.org/documents/social-and-environmental-implications-nanotechnology-development-africa>

⁸⁹ Foladori G, Invernizzi N, Bejarano F (2012). Social and Environmental Implications of Nanotechnology Development in Latin America and the Caribbean. ReLANS / IPEN/ CMS-UCSB

<http://ipen.org/documents/social-and-environmental-implications-nanotechnology-development-latin-america-and>

importance to the minimization of significant adverse impacts on the environment and human health associated with exposures to hazardous chemicals and wastes. SAICM Beyond 2020 can therefore further develop future SAICM initiatives and plans of action associated with SDG7.

Key measurable objectives

1. By 2022, develop a global roadmap on how pharmaceuticals can be produced, used and disposed of in a sustainable way, with an emphasis on the quality/rational use of medicines (human and veterinary), preventing microbial resistance and reducing and eliminating pharmaceutical pollution downstream of production facilities.
2. By 2025, establish an inventory of available techniques in waste water treatment/water treatment plants for destroying pharmaceutical pollutants, applicable in all countries.
3. By 2025, establish regular monitoring and public reporting of water sources in 50 countries, including potable water, surface and ground water sources, sewage treatment effluents and sewage sludge for the presence of EPPPs and their bioactive transformation products.
4. By 2025, governments and the private sector apply extended producer responsibility so that the pharmaceutical industry is accountable for all pharmaceutical waste throughout the life cycle of their products.
5. By 2030, achieve clean production and zero discharge of pharmaceuticals into the environment.

8. Zero waste

Relevant SDG(s): 11, 12, 13

SDG11 calls on countries to address municipal and other waste management to make cities sustainable. Zero waste is the approach most consistent with fulfillment of sustainable waste management objectives because it addresses sustainable resource management. SAICM risk reduction objectives include reducing, *“the generation of hazardous waste, both in quantity and toxicity, and to ensure the environmentally sound management of hazardous waste, including its storage, treatment and disposal.”*⁹⁰ Global Plan of action items relevant to waste management including zero waste are outlined in items 68-73, 118, 121, 161-162, 169, 171-172, 187, 234, 258-262, and 272-273.

Key measurable objectives

1. By 2025, all major cities containing more than 1 million inhabitants conduct a waste audit to find out the amount and type of waste being produced, imported, and exported.
2. By 2030, implement segregation of waste at source for reuse, recycling and composting in all major cities.
3. By 2030, the private sector makes products that are non-toxic; durable; reusable; easy to dismantle, repair and rebuild; minimally and appropriately packaged; recyclable and/or compostable at the end of life and publicly reports progress periodically.
4. By 2030, facilitate circular economy/cradle to cradle systems without toxic chemical recycling in 100 countries in 5 UN regions.

9. Workplace right to know

Relevant SDG(s): 3, 8, 16

The SAICM Dubai Declaration notes that one of the reasons to take concerted action on toxic chemicals is, *“exposure of workers to harmful chemicals and concern about the long-term effects of chemicals on*

⁹⁰ UNEP - WHO (2006) Overarching Policy Strategy para 14, Strategic Approach to International Chemicals Management http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

both human health and the environment.”⁹¹ Workers have an especially important need – often denied them – to have full access to information about the chemicals they use and about the hazards those chemicals pose. The SAICM Dubai Declaration states, “*We stress the responsibility of industry to make available to stakeholders such data and information on health and environmental effects of chemicals as are needed safely to use chemicals and the products made from them.*”⁹² SAICM Beyond 2020 can do much more than has been done in the past to promote initiatives aimed at promoting safe and secure working environments for all workers. In some cases, these might be the promotion of workplace-focused activities that are related to already-identified Emerging Policy Issues and Issues of Global Concern such as: highly hazardous pesticides; hazardous substances in electronics (aimed at preventing toxic exposures to workers both at the point of production and also during end-of-life waste management and recovery); and chemicals in products.

Key measurable objectives

1. By 2030, ILO Convention 170 ratified and implemented in all countries.
2. By 2030, establish and enforce occupational health and safety regulations that provide meaningful right to know to workers, prioritize prevention, establish exposure limits protective of the most vulnerable populations, and provide equal protection in the workplace and the community in 150 countries.
3. WHO initiates a hazard surveillance program in 75 countries by 2025 to identify agricultural settings where there are particular pesticide exposures and health hazards to workers; 150 countries by 2030.
4. Conduct biomonitoring and health surveillance of workers handling endocrine disrupting chemicals and nanomaterials in 50 countries by 2025; 100 countries by 2030.
5. By 2025, the private sector completes an inventory of hazardous chemicals used in manufacturing processes as a baseline for subsequent reduction and publicly reports their chemical footprint periodically.

10. Agroecology

Relevant SDG(s): 2, 3, 4, 5, 6, 8, 12, 13

In 2009, the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD) concluded that it is necessary to shift from current farming practices to sustainable agriculture systems capable of providing both significant productivity increases and enhanced ecosystem services. It noted that sustainable development can be promoted through reduced agrochemical inputs and by the use of agroecological management approaches. FAO promotes a paradigm of sustainable crop production intensification (SCPI) that conserves and enhances natural resources, and develops a healthy agroecosystem as the first line of defense against crop pests. It is based on an ecosystem approach: inputs of land, water, seed and fertilizer complement natural processes that support plant growth, pollination, natural predation for pest control, and soil biota that enhance plant access to nutrients. It draws on nature’s contribution to crop growth, and applies appropriate external inputs as needed. Additionally, FAO has sponsored international and regional symposiums on agroecology with the participation of hundreds of experts and rural grassroots organizations.⁹³ At the Conference of the Parties to the Stockholm Convention in May 2013, Parties agreed unanimously to give priority to ecosystem-based approaches to pest control to replace the insecticide endosulfan, which is listed under

⁹¹ UNEP - WHO (2006) Strategic Approach to International Chemicals Management http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

⁹² UNEP - WHO (2006) Strategic Approach to International Chemicals Management http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

⁹³ See <http://www.fao.org/agriculture/crops/thematic-sitemap/theme/spi/en/>

the Convention for global phase out.⁹⁴ Finally, in 2015, the ICCM4 adopted Resolution IV/3 establishing Highly Hazardous Pesticides (HHPs) as a SAICM Issue of Global Concern.⁹⁵ Delegates recognized, *“that highly hazardous pesticides cause adverse human health and environmental effects in many countries, particularly in low-income and middle-income countries”* and agreed to take concerted efforts to implement a strategy developed by FAO, UNEP, and WHO. Delegates further indicated that this should be done, *“with emphasis on promoting agroecologically based alternatives.”* SAICM Beyond 2020 can contribute to Agenda 2030 by developing an initiative focused on agroecology. This initiative would synergize with the issue of concern focused on highly hazardous pesticides but would broaden the issue in keeping with SDG2 and other relevant SDGs.

Key measurable objectives

1. Adopt policies and instruments in 75 countries by 2025 that implement agroecological strategies and practices that reduce synthetic inputs, such as pesticides and fertilizers, and are based on biodiversity and integrated soil nutrition and thus increase agricultural productivity in a sustainable way, strengthen adaption to climate change and mitigate greenhouse gases; 150 countries by 2030.
2. Increase local markets by 50% in 75 countries by 2025 so that the increase in agricultural production and productivity will translate into higher incomes; 150 countries by 2030.
3. Implement policies and their instruments to achieve access to education, land, agricultural extension, and credit equitably between women and men, respecting community cultures and practices in 75 countries by 2025; 150 by 2030.

11. Plastics

Relevant SDG(s): 11, 12, 14

UN Environment has identified plastic marine pollution and particularly microplastics as a major global environmental threat.⁹⁶ The Asia Pacific region has been identified as a major region of leakage for plastic waste into our ocean with estimates suggesting that there will be more plastic in our oceans than fish by 2050.⁹⁷ SAICM has a key role in promoting safer chemicals policy through toxics reduction, elimination and substitution to avoid and ultimately eliminate the adverse toxic impacts embedded throughout the whole life cycle of plastic products and packaging from raw materials extraction, use and final disposal.

Key measurable objectives

1. By 2023, plastics audits in municipal and industrial wastes conducted and results publicly released in 50 countries.
2. By 2025, ban multi-layered, single use plastic packaging and products, particularly sachets, in 150 countries.
3. Private sector funds recycling infrastructure in 75 countries by 2025, 150 countries by 2030.

⁹⁴ Report of the Conference of the Parties to the Stockholm Convention on Persistent Organic Pollutants on the work of its sixth meeting. SC-6/8: Work programme on endosulfan, point 2. P46. [http://chm.pops.int/Convention/Conference of the Parties\(COP\)/ReportsandDecisions/tabid/208 /Default.aspx](http://chm.pops.int/Convention/Conference%20of%20the%20Parties(COP)/ReportsandDecisions/tabid/208/Default.aspx)

⁹⁵ UNEP (2015) IV/3 Highly hazardous Pesticides, Report of the International Conference on Chemicals Management on the work of its fourth session, SAICM/ICCM.4/15

⁹⁶ UNEP (2016) Marine Plastic Debris and microplastics. Global lessons and research to inspire action and guide policy change.

<http://www.unep.org/about/sgb/Portals/50153/UNEA/Marine%20Plastic%20Debris%20and%20Microplastic%20Technical%20Report%20Advance%20Copy.pdf>

⁹⁷ Ellen MacArthur Foundation (2016) The New Plastics Economy: Rethinking the New Plastics Economy.

<https://www.ellenmacarthurfoundation.org/publications/the-new-plastics-economy-rethinking-the-future-of-plastics>

4. By 2022, initiate a monitoring program for chemicals in microplastics in the world's oceans as an effectiveness evaluation measure for SAICM and the chemical conventions.

12. Women and chemical safety

Relevant SDG(s): 2, 3, 4, 5, 6, 8, 9, 11, 12, 13, 14, 15, 16, 17

Despite the fact that women make up roughly half the population and chemical exposures are widespread, the gender aspects of chemical safety have been largely ignored.⁹⁸ Rio Principle 20 states, “*Women have a vital role in environmental management and development. Their full participation is therefore essential to achieve sustainable development.*”⁹⁹ The SAICM ministerial Dubai Declaration commits governments to, “*work towards effective and efficient governance of chemicals management by means of transparency, public participation and accountability involving all sectors of society, in particular striving for the equal participation of women in chemicals management.*”¹⁰⁰ Risk reduction measures need to be improved, “*to prevent the adverse effects of chemicals on the health of children, pregnant women, fertile populations, the elderly, the poor, workers and other vulnerable groups and susceptible environments.*”¹⁰¹ SAICM Beyond 2020 should address aspects of the relationship between women and chemical safety in each of its emerging policy issues and issues of concern. These might include lack of data, disparity in environmental assessments and impacts, occupational exposures, and decision-making.

Key measurable objectives

1. Make “women and chemical safety” an Issue of Concern.
2. Address the relationship between women and chemical safety in all SAICM Emerging Policy Issues and Issues of Concern.
3. Include women and chemical safety components as an integrated component in all IOMC and national projects.

Annex 1: Chemical safety contributions to achieving relevant Sustainable Development Goals

SAICM contribution to SDG2: “*End hunger, achieve food security and improved nutrition and promote sustainable agriculture*”; including 2.3: “*double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land...*”; 2.4: ensure “*sustainable food production systems and implement resilient agricultural practices*”; and 2.5: “*maintain the genetic diversity of seeds, cultivated plants...*”

SAICM 2.1 Fully implement agroecological strategies and practices

1. Adopt policies and instruments in 75 countries by 2025 that implement agroecological strategies and practices that reduce synthetic inputs such as fertilizers and pesticides and are based on biodiversity and integrated soil nutrition and thus increase agricultural productivity in a

⁹⁸ For more information on this topic, please see the IPEN paper, Beyond 2020: Women and chemical safety

⁹⁹ United Nations Conference on Environment and Development (1992) Rio Declaration on environment and development, <http://www.unep.org/documents.multilingual/default.asp?documentid=78&articleid=1163>

¹⁰⁰ UNEP - WHO (2006) Dubai Declaration, para 18, Strategic Approach to International Chemicals Management http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

¹⁰¹ UNEP - WHO (2006) Overarching Policy Strategy, para 7, Strategic Approach to International Chemicals Management http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

sustainable way, strengthen adaptation to climate change, and mitigate greenhouse gases; 150 countries by 2030.

2. Increase local markets by 50% in 75 countries by 2025 so that the increase in agricultural production and productivity will translate into higher incomes, in particular for small holders; 150 countries by 2030.
3. Adopt concrete policy measures for secure legal access to land in 75 countries by 2025; 150 countries by 2030.

SAICM 2.2 Phase-out highly hazardous pesticides

1. Raise awareness about the harms of highly hazardous pesticides (HHPs) and the availability of safer alternatives in 150 countries by 2025.
2. Provide guidance on safer alternatives to HHPs with priority to non-chemical alternatives and ecosystem approaches to sustainable food and fiber production to 50 countries by 2025; 150 countries by 2030.
3. Identify and make publicly available, health and environmental hazard information on 80 pesticides that should be classified as highly hazardous under the conditions of their ordinary use in 75 developing and transition countries by 2025; 150 countries by 2030.
4. Phase out the manufacture, import, sale and use of 20 highly hazardous pesticides in 50 countries by 2025; 150 countries by 2030.
5. Provide guidance and promote assistance to identify and reduce exposure to highly hazardous pesticides including near areas of cultivation, particularly around schools, hospitals, and urban areas in 150 countries by 2030.
6. Provide assistance to 1,000,000 farmers in 100 countries to enable them to replace the use of highly hazardous pesticides with agroecological alternatives while maintaining their agricultural livelihood by 2030.

SAICM contributions to SDG3: *“Ensure healthy lives and promote well-being for all at all ages”* including 3.4: *“reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being”*; and 3.9: *“substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.”*

SAICM 3.1 Establish chemical control laws and ratify the chemicals conventions

1. Ratify the Basel, Minamata, Rotterdam, and Stockholm Conventions and ILO conventions 155, 170, 174, and 184 in all countries by 2030 and prepare national plans for their implementation.
2. Establish and enforce basic chemical control laws grounded in the precautionary principle and that incorporate pollution prevention measures in 150 countries by 2030.
3. Establish and implement cost recovery instruments to recover chemical management costs from industries producing/importing/using chemicals in 150 countries by 2030.
4. The SAICM Secretariat uses the UN Environment cost internalization report (See IPEN paper, “Beyond 2020: Financing chemical safety”) and other relevant materials to provide legal and policy training on global and regional cost internalization approaches back-to-back with SAICM regional meetings, which shall include the participation of appropriate government staff from countries responsible for developing and executing these types of laws.
5. Ratify the Basel Ban Amendment by 2020.
6. By 2020, analytical data on lead in paint from 80 developing and transition countries is publicly available as a contribution to enable all countries to: 1) Establish effective legally-binding regulatory controls by 2022 on lead decorative paints and lead paints for other applications most likely to contribute to children’s lead exposure; and 2) Establish effective legally-binding

regulatory controls by 2027 prohibiting the use of lead in paint, varnishes, stains, enamels, glazes, primers or other coatings.

7. By 2030 publicly available monitoring shows that no varnishes, lacquers, stains, enamels, glazes, primers or coatings produced, sold, exported, imported or used for any purpose contain lead.
8. Establish and enforce occupational health and safety regulations that provide meaningful right to know to workers, prioritize prevention, establish exposure limits protective of the most vulnerable populations, and provide equal protection in the workplace and the community in 150 countries by 2030.
9. Adopt policy instruments in 75 countries by 2025 that prohibit carcinogenic, neurodevelopmental toxicants, and endocrine-disrupting chemicals from products, including personal care and cleaning products, food contact materials, and toys/childcare products, in favor of safe substitutes; 150 countries by 2030.
10. Adopt policy instruments to reduce, substitute, and eliminate hazardous substances in electrical and electronic products in 75 countries by 2025; 150 countries by 2030.
11. Conduct biomonitoring and health surveillance of workers handling nanomaterials in 15 countries by 2025; 50 countries by 2030.
12. Eliminate exposure to neuro-toxicants in all countries by 2030.

SAICM 3.2 Reduce and eliminate pesticide poisoning

1. Initiate a hazard surveillance program to identify agricultural settings where there are particular pesticide exposures and health hazards to workers.
2. Update pesticide poisoning data for the African, Asia-Pacific, Central and Eastern Europe, and Latin America and the Caribbean regions by 2022.
3. Achieve 80% reduction in pesticide poisonings globally by 2030.
4. Reduce the number of pesticide-related suicides by 50% by 2025; 100% by 2030.
5. Establish effective poison control centers in the 55% of the WHO Member States that do not have them and ensure adequate coverage in existing centers by 2030.

SAICM 3.3 Establish safe work that prevents and eliminates chemical exposure

1. Establish policies, instruments and actions to ensure that agricultural workers are not exposed to hazardous pesticides in 75 countries by 2025; 150 countries by 2030.
2. Prohibit all forms of asbestos globally by 2025.
3. Establish and enforce occupational health and safety regulations that provide meaningful right to know to workers, prioritize prevention, establish exposure limits protective of the most vulnerable populations, and provide equal protection in the workplace and the community in 150 countries by 2030.
4. Adopt policy instruments to reduce, substitute, and eliminate hazardous substances in electrical and electronic products in 25 countries by 2025; 50 countries by 2030.
5. Conduct biomonitoring and health surveillance of workers handling nanomaterials in 15 countries by 2025; 50 countries by 2030.

SAICM contributions to SDG4: *“Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all”*; including 4.3: *“ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university.”*

SAICM 4.1 Fully educate the public on chemical safety

1. Implement public education programs in all countries by 2030 based on the needs of their members, their community know-how and the specific potentialities of each territory, to promote gender equity and develop culturally and environmentally sustainable agricultural practices and techniques appropriate to the community.

2. Implement public education programs in all countries by 2030 to improve knowledge of toxic chemicals and sustainable practices such as agroecology.
3. Implement public awareness, education and training programs on POPs (including their health and environmental effects and alternatives) in all countries by 2030, especially for woman, children and the least educated.
4. Implement public education programs on identifying and protecting populations at risk of mercury exposure with the participation of public health and other involved sectors in all countries by 2030.
5. Implement public education programs on the health and environmental effects of mercury, alternatives, results of monitoring, epidemiological information, and information on the reduction or elimination of production, use, trade, emissions and releases in all countries by 2030.
6. Implement public education programs on the need for recycling, including electrical and electronic products, in all countries by 2030.

SAICM 4.2 Fully educate workers to prevent exposure to toxic substances, wastes, and materials

1. Implement educational programs for waste handlers and recyclers on preventing exposure to toxic chemicals in all countries by 2030.
2. The private sector implements educational programs on preventing occupational exposure to mercury or mercury compounds in all countries by 2030.
3. The private sector funds educational programs performed by independent training centers for agricultural and industrial workers that are sufficient to protect safety and health in all countries by 2030.

SAICM contributions to SDG5: *“Achieve gender equality and empower all women and girls”*; including 5.1: *“End all forms of discrimination against all women and girls everywhere”*; 5.5: *“Ensure women’s full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life.”*; 5a: *“Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws.”*; and 5c: *“Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels.”*

SAICM 5.1 Achieve gender equality in agriculture

1. Implement policies and their instruments to achieve access to education, land, agricultural extension, and credit equitably between women and men, respecting community cultures and practices in 75 countries by 2025; 150 by 2030.

SAICM 5.2 Make the relationship between women and chemical safety a high-level issue of concern

1. ICCM establishes a multi-stakeholder women and chemicals working group by 2020 to develop recommendations for actions on women and chemical safety that are included in workplans guiding SAICM emerging policy issues and issues of concern.
2. Female Ministers of Environment, Health, and Agriculture, in collaboration with relevant stakeholders, develop a report for SAICM on women and chemical safety for release in 2022 that includes case studies and concerns from all UN regions.
3. Female Ministers of Environment, Health, and Agriculture make a ministerial declaration on women and chemical safety in 2022 that springs from the findings and recommendations of their report and is consistent with the needs and strategies outlined in the SAICM agreement.

SAICM 5.3 Address the relationship between women and chemical safety as an integrated component in all IOMC and national projects

1. Develop gender guidelines for sound chemicals, waste management, and agriculture in all IOMC and national projects by 2024. Existing gender guidelines could serve as the baseline, but currently do not address specific aspects of chemicals and wastes and the differences of their implications in women and men, and thus need to be expounded upon.
2. Donors and IOMC organizations require gender assessments, collection of sex-disaggregated data, and gender trainings for involved staff and project participants for all chemicals, waste and agriculture projects by 2020.
3. Donors and IOMC organizations develop quantitative and qualitative gender indicators for both policy and projects on chemicals and waste by 2020 to better understand gender implications related to chemicals and waste topics, which will further lead to improved conditions for women and men equally, and empower them to play an active role as agents of change.
4. Donors and IOMC organizations require a section about gender-related activities and outcomes of the project in all chemicals, wastes, and agriculture projects by 2020.
5. Donors and IOMC organizations make all gender-disaggregated data retrieved in all projects publicly available beginning in 2022, to increase the protection of human health and to stimulate further scientific research.

SAICM contributions to SDG6: *“Ensure availability and sustainable management of water and sanitation for all”*; including 6.3: *“improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.”* (see SAICM 12.2 for waste measures)

SAICM 6.1 Reduce and eliminate water pollution

1. Monitor all major rivers and waterways for existing and emerging substances of concern¹⁰² in 75 countries by 2025; 150 countries by 2030.
2. Set controls to protect freshwater sources, including drinking water, from pesticide contamination in 75 countries by 2025; 150 countries by 2030.
3. Establish and implement cost recovery instruments to recover cleanup costs from polluting industries in 150 countries by 2030.
4. Clean up all major rivers and waterways in 150 countries by 2030.
5. Implement and enforce pollution prevention in 150 countries by 2030.

SAICM 6.2 Sustainably manage water used in agriculture

1. Implement policies and their instruments to assist agricultural producers to implement strategies and practices to collect rainwater "in situ", and enable its management, distribution and use, reducing evaporation and surface loss in 75 countries by 2025; 150 countries by 2030.

SAICM contributions to SDG8: *“Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all”*; including 8.8: *“Protect labour rights and*

¹⁰² Groups of chemicals that might be prioritized include persistent, bioaccumulative and toxic substances (PTS); very persistent and very bioaccumulative substances; chemicals that are carcinogens or mutagens or that adversely affect, inter alia, the reproductive, endocrine, immune or nervous systems; persistent organic pollutants (POPs), mercury and other chemicals of global concern; chemicals produced or used in high volumes; chemicals subject to wide dispersive uses; and other chemicals of concern at the national level. SAICM Overarching Policy Strategy para 9.

promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.”

SAICM 8.1 Establish safe work that prevents and eliminates chemical exposure

1. Establish policies, instruments and actions to ensure that agricultural workers are not exposed to hazardous pesticides in 75 countries by 2025; 150 countries by 2030.
2. WHO initiates a hazard surveillance program in 75 countries by 2025 to identify agricultural settings where there are particular pesticide exposures and health hazards to workers; 150 countries by 2030.
3. Prohibit all forms of asbestos globally.
4. Establish and enforce occupational health and safety regulations that provide meaningful right to known to workers, prioritize prevention, establish exposure limits protective of the most vulnerable populations, especially pregnant women, and provide equal protection in the workplace and the community in 150 countries by 2030.
5. 50 countries enact meaningful right to know regulations for workers producing electronics, including sub-contractors, by 2030.
6. Adopt policy instruments to reduce, substitute, and eliminate hazardous substances in electrical and electronic products in 25 countries by 2025; 50 countries by 2030.
7. Conduct biomonitoring and health surveillance of workers handling nanomaterials in 15 countries by 2025; 50 countries by 2030.
8. Identify and implement biomonitoring and health surveillance of workers, with priority given to industries using large numbers of chemical substances such as electronics, textiles, and others; 15 countries by 2025; 50 countries by 2030.

SAICM contributions to SDG9: *“Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation”*; including 9.4: *“greater adoption of clean and environmentally sound technologies and industrial processes.”*

SAICM 9.1 Implement clean production

1. The private sector completes an inventory of hazardous chemicals used in manufacturing processes as a baseline for subsequent reduction by 2030 and publicly reports their chemical footprint periodically.
2. The private sector eliminates or reduces the use of hazardous chemicals in design and manufacturing by 70% by 2030 and publicly reports progress periodically.
3. The private sector makes products that are non-toxic; durable; reusable; easy to dismantle, repair and rebuild; minimally and appropriately packaged; recyclable and/or compostable at the end of life by 2030 and publicly reports progress periodically.
4. Free electronics take-back programs are part of extended producer responsibility measures in 150 countries by 2030.

SAICM 9.2 Advance hazard reduction in chemical design

1. UN Environment produces a report by 2022 focused on practical steps for hazard reduction in chemical design and use with a special emphasis on developing and transition countries.
2. ILO conducts capacity building workshops at SAICM regional meetings on how hazard reduction with inherently safer chemistry can reduce chemical accidents and insure worker health and safety.
3. The private sector implements benchmarking tools to assure hazard reduction and avoidance in the design of new chemicals and assessment of current products and reports on progress at each ICCM.

SAICM contribution to SDG11: *“Make cities and human settlements inclusive, safe, resilient and sustainable”* including 11.6: *“reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.”*

SAICM 11.1 Reduce and eliminate air pollution

1. Private sector reduces sulfur in fuel to less than 10 ppm in all countries by 2025.
2. Private sector reduces manganese in fuel to less than 2 ppm in all countries by 2025.
3. Private sector develops a plan for elimination of metals and benzene in fuel by 2025; implemented worldwide by 2030.
4. Publicly available daily, real-time PM2.5 monitoring is conducted in all major cities by 2025.
5. Pollution prevention regulations addressing industrial sources implemented and enforced in 75 countries by 2025, 150 countries by 2030.
6. Eliminate government subsidies for waste to energy incinerators and cement kilns by 2022 in 75 countries, 150 countries by 2025.
7. Implement sustainable zero waste city strategies to address the adverse air quality impacts of open burning of waste in 75 countries by 2025; 150 countries by 2030.

SAICM 11.2 Implement zero waste strategies

1. The private sector makes products that are non-toxic; durable; reusable; easy to dismantle, repair and rebuild; minimally and appropriately packaged; recyclable and/or compostable at the end of life by 2030 and publicly reports progress periodically.
2. All major cities conduct a waste audit to find out the amount and type of waste being produced, imported, and exported by 2025.
3. Implement segregation of waste at source for reuse, recycling and composting in all major cities by 2030.
4. Uphold the rights and livelihoods of waste pickers and waste workers to collect and manage waste, and support local reuse and recycling centers that allow residents and companies to separate and deliver reusable and recyclable items and hazardous waste are established in all major cities by 2030.
5. Zero waste procurement practices including non-toxic zero waste products; reusable shipping containers; reduced packaging; recycled and compostable products; remanufactured equipment; and leased, rented, or shared equipment adopted in 150 countries and all major manufacturers by 2030.
6. Free electronics take-back programs are part of extended producer responsibility measures in 150 countries by 2030.
7. Ban multi-layered, single use plastic packaging and products, particularly sachets, in 150 countries by 2025.
8. Complete shift to non-combustion methods for residual waste treatment in 75 countries by 2030.
9. UN Environment conducts training for government regulators in all UN regions by 2023 on economic instruments useful for achieving sustainable zero waste practices including revenue generating instruments (e.g. pay as you throw, green taxes), revenue providing instruments (e.g. tax credits, funds), and non-revenue instruments (e.g. liability, public procurement, extended producer responsibility).
10. Support to local communities, their municipalities and not for profit sectors to implement Zero Waste City models in 75 countries by 2025; 150 countries by 2030.
11. Facilitate circular economy/cradle to cradle systems without toxic chemical recycling in 100 countries in 5 UN regions by 2030.

SAICM contributions to SDG12: *“Ensure sustainable consumption and production patterns”*; including 12.3: *“By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses”*; 12.4: *“By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frame works, and significantly reduce their release”*; 12.5: *“substantially reduce waste generation through prevention, reduction, recycling and reuse.”*; 12.6: *“Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.”*; 12.7: *“Promote public procurement practices that are sustainable, in accordance with national policies and priorities.”*

SAICM 12.1 Halve global food waste and encourage local food production

1. Adopt policies and instruments in 75 countries by 2025 that implement agroecological strategies and practices as the basis of agriculture; 150 countries by 2030.
2. Adopt policies and instruments in 75 countries by 2025 that promote responsible food consumption within a circular matrix of production and consumption that reduces the extraction and consumption of renewable and non-renewable natural resources; 150 countries by 2030.
3. Promote actions to plan sustainable uses of natural assets and favoring local food consumption in 75 countries by 2025; 150 countries by 2030.
4. Adopt policies and promote food production at the local level, facilitating consumer access through the purchase of state institutions, favoring small-scale industrialization and composting at the community level in 75 countries by 2025; 150 countries by 2030.

SAICM 12.2 Implement zero waste strategies

1. The private sector makes products that are non-toxic; durable; reusable; easy to dismantle, repair and rebuild; minimally and appropriately packaged; recyclable and/or compostable at the end of life by 2030 and publicly reports progress periodically.
2. All major cities conduct a waste audit to find out the amount and type of waste being produced, imported, and exported by 2025.
3. Implement segregation of waste at source for reuse, recycling and composting in all major cities by 2030.
4. Uphold the rights and livelihoods of waste pickers and waste workers to collect and manage waste, and support local reuse and recycling centers (that allow residents and companies to separate and deliver reusable and recyclable items and hazardous waste) are established in all major cities by 2030.
5. Zero waste procurement practices including non-toxic zero waste products; reusable shipping containers; reduced packaging; recycled and compost products; remanufactured equipment; and leased, rented, or shared equipment adopted in 150 countries and all major manufacturers by 2030.
6. Free electronics take-back programs are part of extended producer responsibility measures in 150 countries by 2030.
7. Ban multi-layered, single use plastic packaging and products, particularly sachets, in 150 countries by 2025.
8. Complete shift to non-combustion methods for residual waste treatment in 75 countries by 2030.
9. UN Environment conducts training for government regulators in all UN regions by 2023 on economic instruments useful for achieving sustainable zero waste practices, including revenue generating instruments (e.g. pay as you throw, green taxes), revenue providing instruments (e.g. tax credits, funds), and non-revenue instruments (e.g. liability, public procurement, extended producer responsibility).
10. Support to local communities, their municipalities and not for profit sectors to implement Zero Waste City models in 75 countries by 2025; 150 countries by 2030.

11. Facilitate circular economy/cradle to cradle systems without toxic chemical recycling in 100 countries in 5 UN regions by 2030

SAICM 12.3 Implement clean production

5. The private sector completes an inventory of hazardous chemicals used in manufacturing processes as a baseline for subsequent reduction by 2030 and publicly reports their chemical footprint periodically.
6. The private sector eliminates or reduces use of hazardous chemicals in design and manufacturing by 70% by 2030 and publicly reports progress periodically.
7. The private sector makes products that are non-toxic; durable; reusable; easy to dismantle, repair and rebuild; minimally and appropriately packaged; recyclable and/or compostable at the end of life by 2030 and publicly reports progress periodically.
8. Free electronics take-back programs are part of extended producer responsibility measures in 150 countries by 2030.

SAICM 12.4 Favor safer materials and alternatives in public procurement

1. Green electrical and electronic product procurement initiatives favor products without harmful materials or chemicals in 150 countries by 2030.
2. Zero waste procurement practices including zero waste products; reusable shipping containers; reduced packaging; recycled and compostable products; remanufactured equipment; and leased, rented, or shared equipment adopted in 150 countries and all major manufacturers by 2030.

SAICM 12.5 Develop and implement a stronger, more capable SAICM that receives proper political priority and adequate resources

1. The multi-stakeholder and multi-sectoral design and practice of SAICM is preserved Beyond 2020.
2. SAICM's broad scope is preserved because in its absence no participatory international framework would exist for addressing the majority of the world's most pressing chemical safety concerns.
3. Current issues of concern and emerging policy issues are carried forward Beyond 2020.
4. The Montreal Protocol units are broadened to funded chemical units that serve as coordinating multi-disciplinary national operations for implementation of SAICM, and the Basel, Rotterdam, Stockholm, and Minamata Conventions.
5. ICCM designs and implements a specific SAICM implementation financial mechanism with sufficient, predictable funds that includes broader access as the Special Programme diverges from SAICM's multi-stakeholder approach by excluding financing for public interest civil society organizations.
6. Donor government development assistance agencies increase visibility and financial support for chemical safety by 2022, particularly because SAICM links sound chemicals management to sustainable development and will develop measurable objectives in support of Agenda 2030.
7. A SAICM clearing house mechanism publicly tracks development aid for sound chemicals management by 2022.
8. UN Environment executes a study by 2023 on how to implement market-based instruments to internalize, within relevant industries, the cost to governments of implementing robust programs for sound chemicals management, with an appropriate share of the funds generated directed to assist chemical safety activities in developing countries and countries with economies in transition. The study should include input and review by governmental and stakeholder experts and give serious consideration to common global or regional approaches or instruments that avoid distortions in international trade and investment, consistent with Rio Principle 16.
9. The SAICM Secretariat uses the UN Environment cost internalization report and other relevant materials to provide legal and policy training on global and regional cost internalization

approaches back to back with SAICM regional meetings, which include the participation of appropriate government staff from countries responsible for developing and executing these types of laws.

10. UN Environment uses the cost internalization report and other relevant materials to initiate a multi-stakeholder process to develop a global cost internalization program within the SAICM process, finalized by 2028.

SAICM contributions to SDG13: *“Take urgent action to combat climate change and its impacts.”*; including 13.1: *“Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.”*

SAICM 13.1 Fully implement agroecological strategies

1. Establish policies and implement practices to promote agroecological production to improve the resilience and adaptive capacity of agriculture to climate change hazards and natural disasters in 75 countries by 2025; 150 countries by 2030.
2. Implement policies and instruments to establish agroforestry systems in 75 countries by 2025, with a view to the sustainable use of trees and the ecosystems they support, taking into account the ecosystemic effect of forests on air, water, food and weather; 150 countries by 2030.
3. Implement policies for the sustainable use of forests and soils in 75 countries by 2025 through the establishment of agroecological practices that promote biodiversity, soil nutrition and the transfer of agricultural machinery appropriate to natural, economic, cultural conditions; 150 countries by 2030.

SAICM 13.2 Implement pollution prevention and eliminate polluting subsidies

1. Pollution prevention regulations addressing industrial sources implemented and enforced in 75 countries by 2025, 150 countries by 2030.
2. Eliminate government subsidies for waste to energy incinerators and cement kilns by 2022 in 75 countries, 150 countries by 2025.
3. Implement sustainable zero waste city strategies to address the adverse air quality impacts of open burning of waste in 75 countries by 2025; 150 countries by 2030.

SAICM contributions to SDG14: *“Conserve and sustainably use the oceans, seas and marine resources for sustainable development”*; including 14.1: *“By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.”*

SAICM 14.1 Reduce and eliminate plastic pollution

1. Private sector stops production and use of single-use plastics by 2025 in 150 countries.
2. Private sector implements free take-back of plastic containers and packaging in 75 countries by 2025, 150 countries by 2030.
3. Private sector funds recycling infrastructure in 75 countries by 2025, 150 countries by 2030.
4. Governments ban multi-layered, single use plastic packaging and products, particularly sachets, in 150 countries by 2025.
5. Governments ban the following plastic items in 150 countries by 2030: food wrappers, containers, straws, stirrers, shopping bags, utensils, cups, personal care products containing or packaged in plastic, take-out containers, and cigarette lighters.

SAICM contributions to SDG15: *“Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss”*; including 15.1: *“By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements.”*; 15.2: *“By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally.”*; 15.3: *“By 2030, combat desertification, restore degraded land and soil...”*; 15.5: *“Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.”*; and 15.9: *“By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts.”*

SAICM 15.1 Identify contaminated sites and prioritize them for cleanup

1. Identify and inventory sites contaminated by toxic chemicals including obsolete pesticides, mercury, and others in 75 countries by 2025; 150 countries by 2030.
2. Safely remove and store obsolete pesticides in 75 countries by 2025; 150 countries by 2030.
3. Characterize and prioritize mercury-contaminated sites followed by remediation in 75 countries by 2030.

SAICM 15.2 Stop illegal traffic

1. Governments classify illegal trade of obsolete pesticides as organized crime by 2025.
2. All governments end illegal traffic of obsolete pesticides and other toxic substances by 2030.

SAICM 15.3 Implement agroecology in forests

1. Implement policies and instruments to establish agroforestry systems in 75 countries by 2025, with a view to the sustainable use of trees and the ecosystems they support, taking into account the ecosystemic effect of forests on air, water, food and weather; 150 countries by 2030.
2. Implement policies for the sustainable use of forests and soils in 75 countries by 2025 through the establishment of agroecological practices that promote biodiversity, soil nutrition and the transfer of agricultural machinery appropriate to natural, economic, cultural conditions; 150 countries by 2030.
3. Adopt policies and instruments in 75 countries by 2025 that implement agroecological strategies and practices as the basis of agriculture; 150 countries by 2030.

SAICM contributions to SDG16: *“Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels;”* including 16.7: *“Ensure responsive, inclusive, participatory and representative decision-making at all levels.”*; 16.10: *“Ensure public access to information...”*

SAICM 16.1 Provide publicly available information on the adverse effects of all chemicals in commerce

1. Private sector publicly provides comprehensive and verifiable information on adverse effects for all chemicals in commerce by 2030, including mutagenicity, carcinogenicity and adverse effects on the reproductive, developmental, endocrine, immune and nervous systems.
2. UN Environment assembles a list(s) of endocrine disrupting chemicals (EDCs) and potential EDCs and sources of exposure from the UNEP/WHO State of the Science report and other sources and makes it publicly available on its website by 2020.

3. Private sector implements the SAICM chemicals in products programme in 150 countries by 2030.
4. A global inventory of nanomaterials in commerce and products containing them is publicly available by 2025.
5. By 2020, analytical data on lead in paint from 80 developing and transition countries is publicly available as a contribution to enable all countries to: 1) Establish effective legally-binding regulatory controls by 2022 on lead decorative paints and lead paints for other applications most likely to contribute to children's lead exposure; and 2) Establish effective legally-binding regulatory controls by 2027 prohibiting the use of lead in paint, varnishes, stains, enamels, glazes, primers or other coatings.
6. Private sector, governments, and FAO provide health and environmental hazard information on 80 pesticides that should be classified as highly hazardous under the conditions of their ordinary use in developing and transition countries and make it publicly available by 2025.
7. UN Environment develops and publicly disseminates a list of chemicals of concern to human health and the environment used in electronics production and products by 2025.
8. 80 countries identify gaps in existing legislation and develop regulations to address information disclosure on chemicals in products by 2030.
9. 50 countries enact meaningful right to know regulations for workers producing electronics and in other industries using large amounts of chemicals such as the textile industry (including sub-contractors) by 2025; 100 by 2030.
10. UN Environment establishes a living, publicly available global inventory of nanomaterials on the market by 2025.
11. Pollutant release and transfer registers (PRTR) with publicly accessible data are established in 150 countries by 2030.

SAICM 16.2 Implement meaningful participation of civil society in decision-making

1. Mechanisms are implemented in 150 countries by 2030 to insure meaningful participation of civil society in decisions on sound chemicals management at the national level in all countries, particularly for women, workers, and Indigenous Peoples.
2. Public interest civil society representatives participate in national implementation committees of SAICM and of the Basel, Minamata, Rotterdam, and Stockholm Conventions in all relevant countries.

SAICM contributions to SDG17: *“Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development;”* including 17.2: *“Developed countries to implement fully their official development assistance commitments, including the commitment by many developed countries to achieve the target of 0.7 per cent of gross national income for official development assistance (ODA/GNI) to developing countries and 0.15 to 0.20 per cent of ODA/GNI to least developed countries; ODA providers are encouraged to consider setting a target to provide at least 0.20 per cent of ODA/GNI to least developed countries.”*; 17.3: *“Mobilize additional financial resources for developing countries from multiple sources.”*

SAICM 17.1 ICCM designs and implements a financial mechanism for SAICM implementation

1. ICCM designs and implements a specific SAICM implementation financial mechanism by 2022 with sufficient, predictable funds that includes both a quick fund for smaller amounts and a larger grant program, as well as broader access to such grants, as the Special Programme diverges from SAICM's multi-stakeholder approach by limiting the access to funds to government actors.

SAICM 17.2 Donor government development assistance agencies significantly increase funding for chemical safety

1. Donor government development assistance agencies increase visibility and financial support for chemical safety by 2022, particularly because SAICM links sound chemicals management to sustainable development and will develop measurable objectives in support of Agenda 2030.
2. A SAICM clearing house mechanism publicly tracks development aid for sound chemicals management by 2022.

SAICM 17.3 ICCM operationalizes the polluter pays principle for internalization of costs in chemical producing industries

1. UN Environment executes a study by 2023 on how to implement market-based instruments to internalize, within relevant industries, the cost to governments of implementing robust programs for sound chemicals management, with an appropriate share of the funds generated directed to assist chemical safety activities in developing countries and countries with economies in transition. The study should include input and review by governmental and stakeholder experts and give serious consideration to common global or regional approaches or instruments that avoid distortions in international trade and investment, consistent with Rio Principle 16.
2. SAICM Secretariat uses the UN Environment cost internalization report and other relevant materials to provide legal and policy training on global and regional cost internalization approaches back to back with SAICM regional meetings beginning in 2024, which will include the participation of appropriate government staff from countries responsible for developing and executing these types of laws.
3. UN Environment uses the cost internalization report and other relevant materials to initiate a multi-stakeholder process to develop a global cost internalization program within the SAICM process, finalized by 2028.

SAICM contributions to human rights and Agenda 2030 for Sustainable

Development: including Preamble: *“They seek to realize the human rights of all and to achieve gender equality and the empowerment of all women and girls.”*; Declaration: *“We resolve... to protect human rights and promote gender equality and the empowerment of women and girls; and to ensure the lasting protection of the planet and its natural resources.”*; Our vision: *“We envisage a world of universal respect for human rights and human dignity...”*; Our shared principles and other commitments: *“It is grounded in the Universal Declaration of Human Rights, international human rights treaties, the Millennium Declaration, and the 2005 World Summit Outcome.”*; the new Agenda: *“We reaffirm the importance of the Universal Declaration of Human Rights, as well as other international instruments relating to human rights and international law. We emphasize the responsibilities of all States, in conformity with the Charter of the United Nations, to respect, protect and promote human rights and fundamental freedoms for all, without distinction of any kind as to race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth, disability or other status.”*; the new Agenda: *“The achievement of full human potential and of sustainable development is not possible if one half of humanity continues to be denied its full human rights and opportunities.”*; Means of Implementation and the Global Partnership: *“We will foster a dynamic and well-functioning business sector, while protecting labour rights and environmental and health standards in accordance with relevant international standards and agreements and other ongoing initiatives in this regard, such as the Guiding Principles on Business and Human Rights and the labour standards of the International Labour Organization, the Convention on the Rights of the Child 18 and key multilateral environmental agreements, for parties to those agreements.”*

SAICM contributions to human rights aspects of Agenda 2030

1. The Beyond 2020 Declaration builds on the Dubai Declaration by affirming support for protecting, respecting and fulfilling human rights implicated by chemicals and wastes, including the rights to life, health, physical integrity, information, meaningful participation, an effective remedy, and safe food, housing and water, among others.
2. The Beyond 2020 Declaration affirms that businesses conduct human rights due diligence for their activities linked to toxic chemicals and waste, including the rights to life, health, an adequate standard of living (housing, food and water), non-discrimination, and physical integrity, as well as the rights of vulnerable groups, such as women, children and workers.
3. The Beyond 2020 Declaration affirms the need to prioritize the prevention of exposures by women, children, the elderly, workers, the poor, Indigenous Peoples, migrants, minorities and groups that are most vulnerable.
4. Retain the participatory approach of SAICM in the Beyond 2020 framework, in line with the right to meaningful participation.
5. UN Environment and the World Health Organization facilitate the exchange of expertise and best practices between human rights and chemical experts with the SAICM process to build collective capacity to prevent adverse impacts of hazardous substances and wastes by 2025 and report regularly on progress to meetings of the International Conference on Chemicals Management.
6. UN Environment operationalizes a national periodic monitoring, reporting and evaluation mechanism within SAICM by 2030 that provides synergistic information exchange about progress toward chemical safety with UN human rights treaty bodies, Special Procedures, and other human rights mechanisms. This review mechanism should use human rights indicators and participatory processes, paying particular attention to those most vulnerable such as women, children, workers, minorities, the poor, Indigenous Peoples and others.
7. Office of the High Commissioner on Human Rights strengthens collaboration between national, regional and international human rights mechanisms and environmental, health, labor and other related authorities on the implications of hazardous substances for human rights by 2025 and reports regularly on progress to the chemicals conventions COPs and meetings of the International Conference on Chemicals Management.
8. Inter-Organization Programme for the Sound Management of Chemicals and Global Environment Facility activities and projects include a requirement for disaggregated information on risks to vulnerable groups from hazardous substances and wastes by 2030 to help realize the rights to information and meaningful participation.
9. Establish a global mechanism within SAICM by 2030 to protect environmental and human rights defenders and include a procedure for reporting reprisals.
10. SAICM Secretariat establishes links and reports on activities of the international working group to elaborate an international legally binding instrument on Transnational Corporations and Other Business Enterprises with respect to human rights.