



Key messages for  
Beyond 2020

# GLOBAL CHEMICALS OUTLOOK II

FROM LEGACIES TO  
INNOVATIVE SOLUTIONS

IMPLEMENTING THE 2030 AGENDA FOR  
SUSTAINABLE DEVELOPMENT



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## Key findings

The Global Chemicals Outlook II - From Legacies to Innovative Solutions:  
Implementing the 2030 Agenda for Sustainable Development

**The global goal** to minimize adverse impacts of chemicals and waste will not be achieved by 2020. Solutions exist, but more ambitious worldwide action by all stakeholders is urgently required.



**1. The size of the global chemical industry** exceeded United States dollars 5 trillion in 2017. It is projected to double by 2030. Consumption and production are rapidly increasing in emerging economies. Global supply chains, and the trade of chemicals and products, are becoming increasingly complex.



**2. Driven by global megatrends**, growth in chemical-intensive industry sectors (e.g. construction, agriculture, electronics) creates risks, but also opportunities to advance sustainable consumption, production and product innovation.



**3. Hazardous chemicals and other pollutants** (e.g. plastic waste and pharmaceutical pollutants) continue to be released in large quantities. They are ubiquitous in humans and the environment and are accumulating in material stocks and products, highlighting the need to avoid future legacies through sustainable materials management and circular business models.



**4. The benefits of action** to minimize adverse impacts have been estimated in the high tens of billions of United States dollars annually. The World Health Organization estimated the burden of disease from selected chemicals at 1.6 million lives in 2016 (this is likely to be an underestimate). Chemical pollution also threatens a range of ecosystem services.



**5. International treaties and voluntary instruments** have reduced the risks of some chemicals and wastes, but progress has been uneven and implementation gaps remain. As of 2018, more than 120 countries had not implemented the Globally Harmonized System of Classification and Labelling of Chemicals.



**6. Addressing legislation and capacity gaps** in developing countries and emerging economies remains a priority. Also, resources have not matched needs. There are opportunities for new and innovative financing (e.g. through cost recovery and engagement of the financial sector).



**7. Significant resources can be saved** by sharing knowledge on chemical management instruments more widely, and by enhancing mutual acceptance of approaches in areas ranging from chemical hazard assessment to alternatives assessment.



**8. Frontrunner companies** – from chemical producers to retailers – are introducing sustainable supply chain management, full material disclosure, risk reduction beyond compliance, and human rights-based policies. However, widespread implementation of these initiatives has not yet been achieved.



**9. Consumer demand**, as well as green and sustainable chemistry education and innovation (e.g. through start-ups), are among the important drivers of change. They can be scaled up through enabling policies, reaping the potential benefits of chemistry innovations for sustainable development.



**10. Global knowledge gaps can be filled.** This can be achieved, for example, by taking steps to harmonize research protocols, considering health or environmental impact information and harm caused to set and address priorities (e.g. emerging issues), and strengthening the science-policy interface through enhanced collaboration of scientists and decision-makers.

## Strengthening chemicals and waste management

The 2030 Agenda presents an opportunity for collaborative action at all levels to achieve the sound management of chemicals and waste

**Although significant progress** has been made, major gaps remain with respect to implementation of the 2020 goal. SDG Targets 12.4 and 3.9 are at the core of the sound management of chemicals and waste, and are the drivers for developing and implementing effective and integrated systems and programmes for the sound management of chemicals and waste covering all stages of the life cycle.

**The development of basic legislation** and institutional capacity, in line with the overall orientation and guidance

and its 11 basic elements, have been recognized under SAICM as critical at the national and regional levels to the attainment of sound chemicals and waste management. It is equally important to fill data gaps as well as to enhance the use of chemicals management tools.

**3** GOOD HEALTH  
AND WELL-BEING



**12** RESPONSIBLE  
CONSUMPTION  
AND PRODUCTION



### Did you know?

The sound management of chemicals and waste cuts across the 17 SDGs. It is a crucial element underpinning the implementation of the 2030 Agenda, as chemicals and waste affect many aspects of development.

**The development of basic legislation and institutional capacity is critical**



## Mainstreaming chemicals and waste management

Strengthening inter-ministerial coordination mechanisms, and integrating chemicals and waste considerations into relevant sector policies and actions

**T**he 2030 Agenda provides a renewed opportunity to strengthen inter-ministerial coordination mechanisms and integrate chemicals and waste considerations into relevant sectors. This includes economic sectors - such as housing and energy - and enabling policies - such as education and financing.

In developing effective sectoral policies and actions, relevant Ministries may benefit from considering linkages with relevant international agreements on chemicals and waste.

4 QUALITY EDUCATION



7 AFFORDABLE AND CLEAN ENERGY



Steps to integrate chemicals and waste management in economic sectors could include:

- » **Identify** industry sectors where chemicals and waste issues cause concern, including hot spots.
- » **Engage** concerned industry sectors, associations and groups to initiate a dialogue.
- » **Ensure** hazard and risk communication according to the GHS.
- » **Identify** risk management approaches and opportunities for safer alternatives.
- » **Consider** sectoral policy reform and standards to encourage sustainable chemistry innovation.

“The 2030 agenda provides a renewed opportunity to strengthen inter-ministerial coordination mechanisms”



## Strengthening corporate policies

Strengthening corporate commitment at the highest level is essential

**The 2020 goal** cannot be achieved without strengthened action in the private sector, including the chemical industry, downstream manufacturers, and retailers. Many companies in chemical-intensive sectors, including the chemical industry itself, product manufacturers and retailers, have taken actions to strengthen chemicals and waste management.

**Initiatives include** voluntary standard-setting beyond compliance, implementation of business models reducing the use of chemicals of concern in processes (e.g. Chemical Leasing), scaling up of efforts to develop green and sustainable chemistry alternatives, and commitments to phase out chemicals of concern in consumer products.

**Despite these efforts**, voluntary actions and sustainability strategies beyond compliance that advance sound chemicals management are not yet being sufficiently developed and replicated, particularly in developing countries.

**Furthermore**, important private sector stakeholders are not yet fully engaged in relevant discussions at the national and international level. Strengthening corporate commitment at the highest level is therefore essential.

**9** INDUSTRY, INNOVATION  
AND INFRASTRUCTURE



**12** RESPONSIBLE  
CONSUMPTION  
AND PRODUCTION



**Strengthening  
corporate commitment  
at the highest level  
is essential**

## Towards a comprehensive global framework

A comprehensive global framework is needed, with ambitious priorities and coherent indicators

**The development of a framework** for chemicals and waste beyond 2020 provides an opportunity to create linkages across all relevant agreements and initiatives related to chemicals and waste management.

**Of particular value** would be a comprehensive framework bringing together and complementing chemicals and wastemultilateral environmental agreements (MEAs) and other relevant instruments and initiatives, without interfering in matters addressed though these specialized instruments.

**Metrics and sustainability reporting** that document progress and strengthen the accountability of the private sector could add further value and become an important aspect of measuring progress.

**An overarching common vision,** strategic goals, targets and indicators to achieve sound management of chemicals and waste could provide a common agenda, guiding actions towards a desirable future in line with the 2030 Agenda.

### Did you know?

In 2010, Parties to the Convention on Biological Diversity adopted the Strategic Plan for Biodiversity, which comprises a shared Vision, a Mission, five Strategic Goals and 20 targets. These targets are collectively known as the Aichi Targets and provide a coherent results and indicators framework.

**Valuable lessons  
can be learned from  
the development  
of the Aichi Targets**



## Engaging all sectors and actors

Engaging key sectors and actors will be crucial in chemicals and waste management beyond 2020

**T**he 2030 Agenda is built on the premise that sustainable development can only be achieved by bringing together all countries and stakeholders.

**SDG 17**, calling on the global community to revitalize the global partnership for sustainable development, provides a framework for facilitating the engagement and ownership of actors beyond the chemicals and waste community, some of which have so far not been sufficiently engaged, both nationally and at the international level.

**17** PARTNERSHIPS  
FOR THE GOALS



**Protecting human health and the environment** from the adverse effects of chemicals and waste requires the engagement of all relevant stakeholders at the national, regional and global levels. These include:

- » key economic and enabling sectors
- » companies, industry groups, and trade associations
- » workers' organizations
- » civil society groups
- » the academic and research community
- » the donor, investor and financial community
- » leaders in the media and the general public

**Sustainable development can only be achieved by bringing all countries and stakeholders together**





Options for action

## 1. Develop effective management systems

Address prevailing capacity gaps across countries, strengthen national and regional legislation using a life cycle approach, and further strengthen institutions and programmes by:

- ›› promulgating, aligning and enforcing **legislation and policies**, including full implementation of the GHS, promulgating legislation for industrial and consumer products, and taking measures to address illegal international traffic;
- ›› developing national and regional **chemicals and waste management action plans and programmes**, linked to globally agreed targets and priorities; and
- ›› integrating chemicals and waste considerations into **national and sectoral policies** (e.g. agriculture, housing, transport and energy) to implement specific SDG targets.



Options for action

## 2. Mobilize resources

Scale up adequate<sup>1</sup> resources and innovative financing for effective legislation, implementation and enforcement, particularly in developing countries and economies in transition, by:

- ›› scaling up efforts to integrate chemicals and waste management into **national and sectoral budgets**;
- ›› facilitating adequate external **technical assistance, financial support and technology transfer** to address issues causing greatest harm, including through new and innovative financing (e.g. fiscal incentives, cost recovery instruments, green bonds, venture capital); and
- ›› strengthening the **integrated approach to financing** through assessing its effectiveness and renewed commitment across all three components (mainstreaming, industry involvement, and dedicated external financing).

<sup>1</sup>. To facilitate better understanding of the term “adequate” in this context, further analysis and international dialogue are needed on certain topics such as sustainability of funding.



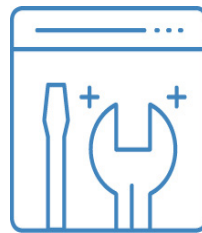


Options for action

### 3. Assess and communicate hazards

Fill global data and knowledge gaps, and enhance international collaboration to advance chemical hazard assessments, classifications and communication by:

- ›› sharing existing **hazard data and assessments** globally, and increasing the mutual acceptance of testing data and hazard assessments across countries based on accepted methods and scientific criteria;
- ›› developing a **global database** of assessed and classified chemicals for information sharing and promoting harmonization of classifications; and
- ›› setting targets to fill **data gaps** in order to fully understand globally the hazards of substances in commerce, and assessing progress.

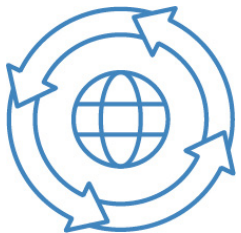


Options for action

### 4. Assess and manage risks

Refine and share chemical risk assessment and risk management approaches globally to promote safe and sustainable use of chemicals and address emerging issues throughout the life cycle by:

- ›› sharing **knowledge on existing risk assessment and management approaches and tools** (e.g. exposure scenarios) more widely;
- ›› further developing and refining **exposure, risk assessment and life cycle assessment** (LCA) methods; and
- ›› taking into account and benefiting from **opportunities for accelerated and effective risk management**, such as placing the burden of proof on producers, advancing informed and non-regrettable substitution of chemicals of high concern, and using generic risk-based approaches, when possible.

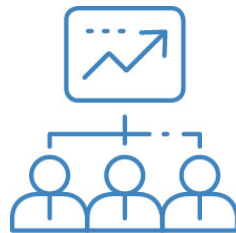


Options for action

## 5. Use life cycle approaches

Advance widespread implementation of sustainable supply chain management, full material disclosure, transparency and sustainable product design by:

- » promoting wide implementation of corporate sustainability and sustainable **procurement policies**;
- » developing **harmonized approaches** across sectors to share chemical information and to advance full material disclosure across supply chains, including chemical-intensive industry sectors and the recycling/waste sector;
- » strengthening **collaboration by all actors in the supply chain** in designing and using safer chemicals and sustainable products; and
- » promoting the integration of chemicals and waste considerations into **corporate sustainability metrics and reporting**.



Options for action

## 6. Strengthen corporate governance

Enable and strengthen chemicals and waste management aspects of corporate sustainability policies, sustainable business models, and reporting by:

- » encouraging **private sector frontrunner action** to further develop voluntary standards that exceed basic compliance, and reviewing their effectiveness through interested stakeholders;
- » promoting **sustainable business models**, such as Chemical Leasing and eco-industrial parks; and
- » enhancing systematic use by investors of **corporate sustainability and chemical footprint reporting**, covering chemicals and waste management performance.



Options for action

## 7. Educate and Innovate

Integrate green and sustainable chemistry in education, research, and innovation policies and programmes by:

- ›› reforming **chemistry curricula** in tertiary, secondary, primary and professional education;
- ›› scaling up **research initiatives**, and technology innovation policies and programmes, that advance green and sustainable chemistry, particularly for start-up companies; and
- ›› facilitating a better global understanding of **green and sustainable chemistry concepts**.



Options for action

## 8. Foster transparency

Empower workers, consumers and citizens to protect themselves and the environment by:

- ›› disclosing robust and understandable **information about hazardous chemicals in the supply chain** to workers, consumers, citizens and communities;
- ›› scaling up **innovative programmes and technology applications** to facilitate a better understanding by individuals of chemical and waste risks, and engaging citizens in data collection through citizen science;
- ›› promoting and supporting meaningful and active **participation by all actors of civil society**, particularly women, workers and indigenous communities, in regulatory and other decision-making processes that relate to chemical safety; and
- ›› taking **action** so that citizens have ready access to justice.



Options for action

## 9. Bring knowledge to decision makers

Strengthen the science-policy interface and use of science in monitoring progress, priority-setting (e.g. for emerging issues), and policymaking throughout the life cycle of chemicals and waste by:

- ›› taking steps to harmonize **scientific research protocols** (e.g. for biomonitoring);
- ›› developing **science-based criteria** to identify emerging issues at the international level, taking into account harm (e.g. using health impact information) and monitoring their implementation;
- ›› providing **research funding** to fill identified gaps and priorities; and developing a study on the global costs of inaction, and benefits of action, on chemicals and waste management, comparable to the Stern Review on *The Economics of Climate Change*; and
- ›› developing and improving **institutional mechanisms** to improve knowledge generation and management.



Options for action

## 10. Enhance global commitment

Establish an ambitious and comprehensive global framework for chemicals and waste beyond 2020, scale up collaborative action, and track progress by:

- ›› developing an aspirational, overarching and widely owned **global framework** that encourages engagement by all relevant stakeholders; and developing global targets, milestones and indicators that distinguish between outputs and impacts;
- ›› providing **opportunities for sharing internationally**, and for input or peer reviews, action plans and roadmaps by stakeholders under a beyond 2020 framework;
- ›› considering how **corporate sustainability metrics and reporting** can play a stronger role in measuring progress in a beyond 2020 framework; and
- ›› monitoring, tracking and reviewing **collective action and progress** and making adjustments in regard to ambition, as needed.



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