

# BENEFITS OF CHEMICALS CONTROL







# **BENEFITS OF CHEMICALS CONTROL**

## PREFACE

This information document developed by UN Environment presents the case for the adoption and implementation of chemicals control legislation, as proposed in the publication, *Guidance on Developing Legal and Institutional Infrastructures and Measures for Recovering Costs of National Administration* ([LIRA-Guidance](#)).

It is primarily intended to support decision makers in their efforts to establish legal frameworks for preventive chemicals control, and government officials actively working to develop, adapt and implement chemicals control and the related institutional capacity. It aims to inform and advise those seeking to understand the multiple benefits and cost-efficiencies of proactive chemicals management.

The key questions addressed by this document are:

*What is chemicals control legislation,  
and what are the benefits?*

This document is part of a series of documents that complements the approaches for chemicals control suggested in the LIRA Guidance. The focus is on industrial and consumer chemicals; it does not take into consideration the specific regulatory needs of pesticides, pharmaceuticals or cosmetic products, which are normally regulated under separate legislation.

The series is composed of this information document and three guidance documents:

- National Authority for Chemicals Control: Guidance on Structure and Funding
- Risk Reduction Tools for Chemicals Control
- Enforcement of Chemicals Control Legislation

The development of these documents benefited from input from an expert group consisting of representatives from government, intergovernmental organizations, industry, academia and civil society.

To facilitate access to references and other relevant documents when addressing chemicals safety, both hyperlinks and footnotes have been included. For those using a hard copy, the main references and their Internet addresses are listed in the “Further reading” section.

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# BENEFITS OF CHEMICALS CONTROL

## 1. INTRODUCTION

With increasing production and use, it is increasingly important for countries to consider the various benefits that the establishment and implementation of legal frameworks for chemicals control can bring to society and industry.

This document identifies benefits in the areas of:

- (1) cost efficiency
- (2) resource efficiency
- (3) trade and industry operations
- (4) human health
- (5) environmental protection
- (6) compliance with international obligations and commitments
- (7) sustainable national development

Chemicals control has environmental, social and economic benefits. However, the establishment and implementation of legal frameworks for industrial and consumer chemicals is an aspect of sound chemicals management still lacking in many countries, especially in developing countries.<sup>1</sup> In parallel to establishing the legal requirements, the related institutional capacity needs to be established or improved. The UNEP LIRA Guidance offers suggestions on ways to establish both chemicals control legislation and institutional capacity.

According to the [Overall Orientation and Guidance](#) (OOG) document prepared within the Strategic Approach to International Chemicals Management (SAICM),<sup>2</sup> legal frameworks and related institutional capacity are basic elements that need to be in place to achieve sound chemicals management in a country. The importance of these elements is also recognized in the Basel, Rotterdam, Stockholm and Minamata Conventions.

*An ounce of prevention  
is better than a pound of cure*

(Benjamin Franklin)

As economies develop, and the use of chemicals becomes more widespread, effective chemical measures enable industries and consumers to use chemicals more safely.

<sup>1</sup> See Persson et al. (2017). Explaining the Legal Implementation Gap.

<sup>2</sup> SAICM, OVERALL ORIENTATION AND GUIDANCE FOR ACHIEVING THE 2020 GOAL OF SOUND MANAGEMENT OF CHEMICALS (29 June 2015), available at <http://www.saicm.org/Portals/12/Documents/OOG%20document%20English.pdf>.



When used properly – based on accurate information on how to manage them – chemicals provide important contributions to society. Chemicals help to provide heat, power, consumer goods, processed food and clothing, and contribute to telecommunications, media and other technology platforms. Chemicals are a significant contributor to our economies, and as the standard of living rises, countries' use of chemicals substantially increases (see UNEP Global Chemicals Outlook, 2013 and 2019).<sup>3</sup>



However, chemicals can also have serious negative impacts on the environment and on human health as well as on national economies. Preventive chemicals control helps to prevent or minimize these harmful impacts in a cost-effective manner.

<sup>3</sup> UNEP, GLOBAL CHEMICALS OUTLOOK - Towards sound management of chemicals (2013), UNEP, GLOBAL CHEMICALS OUTLOOK II - From legacies to innovative solutions (2019)

## 2. WHAT IS CHEMICAL CONTROL?

The term “chemicals control” in this document refers to the regulation of industrial and consumer chemicals before and when placed on the market in a country. It is sometimes referred to as upstream regulation. Placing on the market means supplying or making available chemicals, whether in return for payment or free of charge. This includes chemicals used in industrial processes; chemicals used in everyday life, such as cleaning products and paints; and chemicals in certain consumer goods, such as clothing, furniture and electrical appliances.

Chemicals control can be addressed in free-standing law, or it can be built into a broader chemicals management law or other framework legislation related to the protection of health and the environment. Chemicals control involves defining the conditions for placing chemicals on the market and the institutional arrangements for decision-making, implementation of measures, fees and enforcement. It also involves clearly defining the roles and responsibilities of both industry and government, and clarifying the complementary relationship to existing regulations for chemicals safety.

Defining the role and responsibility of actors throughout the chemical supply chain, including the national administration, is a key element of the legislation. Chemicals control focuses on defining the responsibilities of manufacturers and importers in implementing knowledge-based measures as early as possible in the life cycle of chemicals – providing opportunities for prevention before adverse effects on human health and the environment occur.

A chemical that has several uses may be subject to several different laws. Industrial and consumer chemicals are defined as all chemicals that are not managed through legislation dedicated to specific uses such as pesticides, pharmaceuticals or cosmetic products. It also covers consumer uses (such as the use of paints) that are not managed by specialized legislation. In most countries, pesticides are covered in separate legislation and are often subject to more stringent requirements than industrial or consumer

chemicals. Although considerations related to pesticides, pharmaceuticals, cosmetic products and food additives are not directly offered in this document, there is some overlap in elements of control regulations for all chemical categories – for example, in their labelling provisions, which are based on the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).



Pictograms to be used when a substance or a mixture fulfils the criteria for different hazards as defined in the GHS.

## 2.1 Chemicals control in the life cycle of chemicals

Chemicals control refers to regulation of chemicals in the early stages of the life cycle of chemicals – before and when they are placed on the market (also known as upstream regulation). In such legislation, governments define the responsibilities of manufacturers and importers to implement preventive measures:

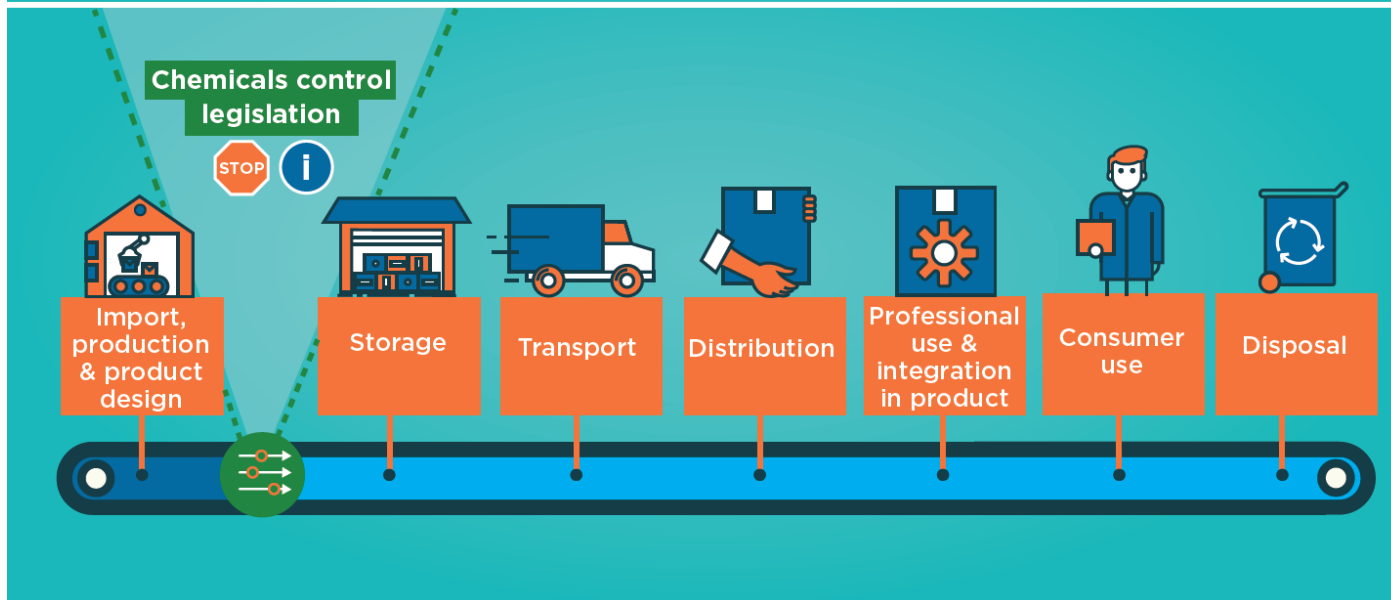


Classification and labelling requirements for providing information on the safe handling of chemicals, hazards and necessary precautions; and disseminating this information down the supply chain.



Bans and restrictions on the production and use of certain chemicals. See section 2.2 for more details.

## Chemicals control measures come early in the lifecycle of chemicals



## 2.2 Elements of chemicals control legislation

The main chemicals control elements or tools are elaborated in the LIRA Guidance and the guidance document on risk reduction tools.<sup>4</sup> They include:

**Defining the role and responsibility of actors** (manufacturers, importers, retailers) as well as national administrations. This allows an efficient allocation of resources and tasks, and coordination between the public sector and industry, which is fundamental in the implementation of the legislation. The main responsibilities for managing the risks posed by chemicals placed on the market should lie with the chemical producers and importers. This approach allows government to focus its resources on establishing and enforcing requirements. To save costs for both industry and government, the legislation should allow for the full use of data and knowledge on chemicals that is available in other regions and countries.<sup>5</sup>



**Classification and labelling requirements**, including providing information on hazards and on how to manage chemical risks to professional users and the public. This enables people to make informed choices and facilitates safe handling. These legal requirements should be in line with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS). Information is then passed from the chemicals importer or manufacturer to the chemicals user further down the supply chain, in an internationally standardized format, through labelling and Safety Data Sheets. Safety Data Sheets contain information on how to manage risks in the workplace, how to prevent emissions and how to ensure safe transport and storage. Obligations to disseminate information on hazards, risks and precautionary measures can encourage both professional and private users to opt for less hazardous alternatives and ensure the sound management of chemicals.

**Other informative instruments**, such as public procurement requirements, eco-labelling, dialogue and targeted information. These can be effective in changing behaviour and achieving a voluntary reduction of the production and use of a chemical or group of chemicals.

<sup>4</sup> UN Environment guidance document on Risk Reduction Tools for Chemicals Control

<sup>5</sup> OECD, Mutual Acceptance of Data (MAD), <http://www.oecd.org/env/ehs/mutualacceptanceofdatamad.htm>

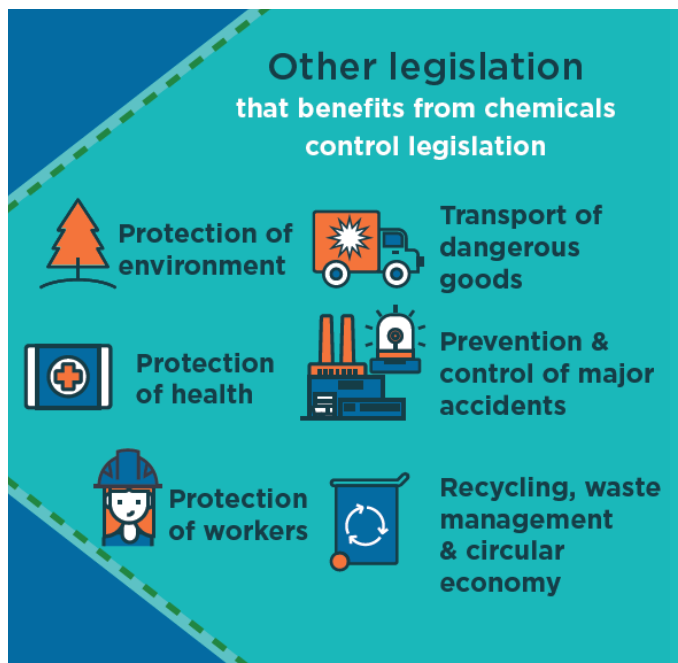


**Bans and restrictions** on the production and use and/or pre-market approval systems for certain chemicals that are considered too hazardous to remain freely and openly accessible. Some bans and restrictions are required as a result of becoming a party to multilateral chemical agreements. As well as preventing hazardous chemicals from reaching the market they also promote the development and introduction of safer alternatives that are technically and financially viable. In assessing the need to regulate a chemical, its marketing and use in both the informal and formal sectors should be assessed. Requirements must be similar for imported and domestically produced chemicals, as well as for the informal and formal sector.





### 3. MULTIPLE BENEFITS OF CHEMICALS CONTROL



Chemicals control can bring society and industry various benefits as it makes production and supply chains cleaner and safer, and reduces the risk of costly accidents. It also provides incentives to develop safer chemicals and more resource-efficient and safer production methods.

#### 3.1 Chemicals control is cost-efficient

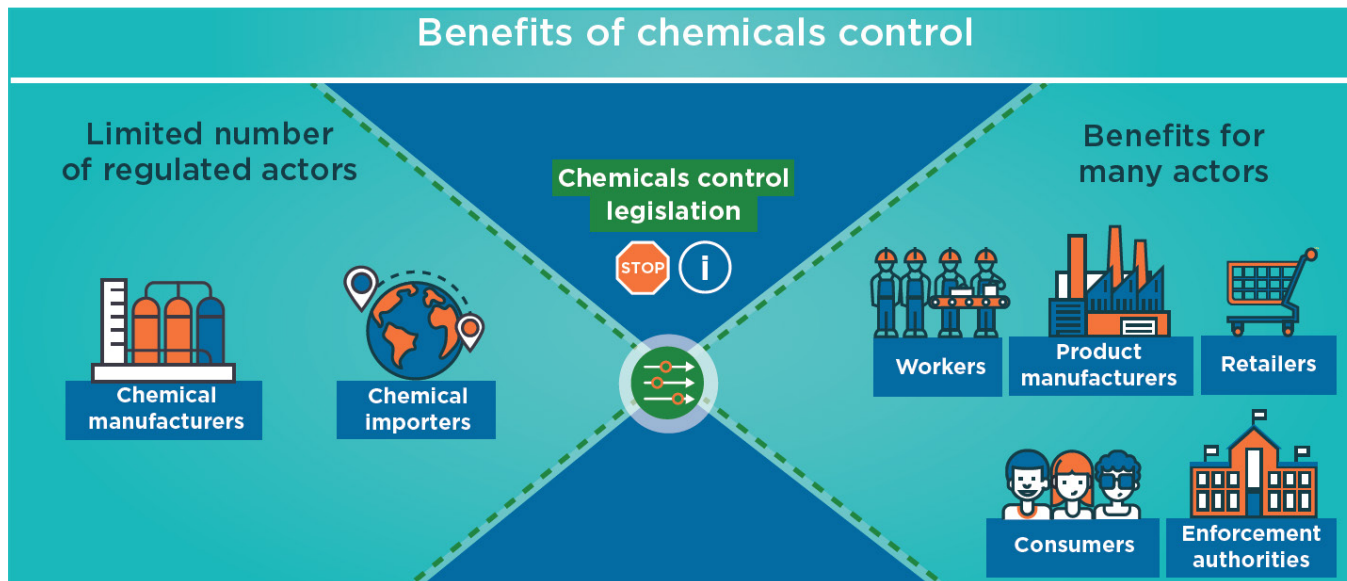
By intervening before and when chemicals are placed on the market – thereby controlling the input of chemicals into production and use cycles – chemicals control complements, simplifies and increases the impact of the many other regulations linked to chemicals safety.

There are a number of other legislative areas that contribute towards increased chemicals safety. Most countries have adopted legislation in these areas, including environmental protection and regulation of emissions from production; the protection of workers; the prevention of major accidents; the transport of dangerous goods; consumer protection; and disposal management. Precaution should be applied in all risk management measures. Implementation of these legislative frameworks will benefit from proactive measures regulating the marketing of industrial/consumer chemicals.

Information on how to manage risks in the workplace can contribute to preventing emissions and to ensuring safe transport and storage. Information about chemical content in all sort of products facilitates material recycling and supports safe waste management. If there are provisions to ensure that chemicals are produced, imported and managed properly from the outset, countries can avoid situations that require costly measures – for example, the remediation of polluted sites.

There are usually a limited number of manufacturers and importers of chemicals, compared to the many professional users. In most countries, importers are the main suppliers. Therefore, chemicals control that defines the responsibilities of manufacturers and importers is more efficient to enforce than regulations in each of the downstream sectors.

Chemicals control makes the use of chemicals safer for many actors in society – workers, product manufacturers, retailers and consumers. Labelling helps the consumer to navigate the range of chemicals on the market.





The costs of enforcing and maintaining chemicals control are relatively manageable, compared with the social, environmental and economic costs of inaction.<sup>6</sup> For further information on this, see the guidance document on Enforcement of Chemicals Control Legislation.<sup>7</sup> The LIRA Guidance and the guidance document on National Authority Structure<sup>8</sup> include suggestions on measures to fund chemical management activities.

### Box 1. The savings from legal and institutional reforms – an example from the agricultural sector

In Uganda, the cost of all proposed reforms for the management of chemicals in the agricultural sector – legal and institutional reforms, including chemical control provisions – was estimated (in 2005) to be \$17.2 million over 15 years. At the same time, the benefits of strengthening the governance of chemicals management for the agricultural sector were estimated to be \$1.98 billion. The gains include increased productivity and an average increase in yield of 20 per cent.<sup>9</sup>

## 3.2 Chemicals control supports resource efficiency

Chemicals control is key to achieving a circular economy in which materials can be safely recycled. A transition towards a circular economy reduces waste and the use of resources, extends the use of materials and products for as long as possible, and allows products to be reused, repaired or recycled. By promoting the use of safer chemicals and the phase-out of hazardous chemicals, chemicals control legislation enables material from products to be safely reused. Cleaning the various waste streams of hazardous substances creates the conditions for safer recycling and, in turn, an effective circular economy.

<sup>6</sup> Food and Agriculture Organization of the United Nations (FAO). 2006. International code of conduct on the distribution and use of pesticides: Guidelines on compliance and enforcement of a pesticide regulatory programme. Retrieved from [http://www.fao.org/fileadmin/templates/agphome/documents/Pests\\_Pesticides/Code/Compliance.pdf](http://www.fao.org/fileadmin/templates/agphome/documents/Pests_Pesticides/Code/Compliance.pdf)

<sup>7</sup> UN Environment Guidance on Enforcement of chemicals control legislation

<sup>8</sup> UN Environment Guidance on National Authority Structure

<sup>9</sup> UN Environment, Towards a Pollution-Free Planet, available at [http://wedocs.unep.org/bitstream/handle/20.500.11822/21213/Towards\\_a\\_pollution\\_free\\_planet\\_advance%20version.pdf?sequence=2&isAllowed=y](http://wedocs.unep.org/bitstream/handle/20.500.11822/21213/Towards_a_pollution_free_planet_advance%20version.pdf?sequence=2&isAllowed=y); Eseza Kateregga, Economic analysis of strengthening the governance of pesticide management in Uganda's agricultural sector, available at <https://isdsnet.com/ijds-v1n2-36.pdf>

The safe reuse of materials from products such as electronics, plastics or textiles is only possible when information on chemicals used in products is made available and exchanged. The Chemicals in Products Programme is a voluntary initiative within SAICM, which aims to improve access to information on chemicals in products throughout the product life cycle.<sup>10</sup>

### 3.3 Chemicals control supports trade and industry operations

A fair and transparent regulatory framework improves the conditions for doing business in any country. By building trust in a country's internal market, chemical regulations help attract foreign companies and investors. Upstream chemicals control regulation helps set a clear and predictable system of rules, which informs manufacturing and importing companies of their obligations and allows them to plan, invest and organize accordingly.<sup>11</sup>

The implementation of chemicals control regulation has a number of benefits for companies: it increases business opportunities, helps to reduce the number accidents and improves access to international markets. With increased focus on product safety and labelling requirements in many consumer markets, chemicals control increases international trade opportunities for industries that meet the required product and food safety standards.

Chemicals control legislation provides business opportunities by improving business reputation and customer trust. In 2016, when the European Union (EU) was drafting criteria to identify chemicals that interfere with the hormone system (endocrine disruptors), companies that rely on consumer trust, such as the IKEA Group, Coop Denmark and H&M, asked the EU to develop clear and robust criteria to phase out these hazardous substances. These companies argued that clear and safe chemicals regulation would help their long-term product development goals.<sup>12</sup>

<sup>10</sup> <http://www.saicm.org/Implementation/EmergingPolicyIssues/ChemicalsinProducts/tabid/5473/language/en-US/Default.aspx>

<sup>11</sup> For information on this see: STOCKHOLM ENVIRONMENT INSTITUTE (2013). "THE INFLUENCE OF LEGISLATION ON THE LOCATION OF CHEMICAL INDUSTRIES", available at <https://www.kemi.se/global/pm/2013/pm-1-13.pdf>.

<sup>12</sup> Letter to Mr. Juncker, Mr. Timmermans, and Mr. Andriukaitis, signed by Coop Denmark, Skanska AB, IKEA GROUP, Swedish Construction Federation, Kingfisher, and H&M (3 June 2016), available at <http://chemsec.org/wp-content/uploads/2016/06/Company-letter-to-the-Commission-2016-06.pdf>.

Regulation of hazardous chemicals is also a major driver of innovation, encouraging the development of new safer substances. By controlling hazardous chemicals and requiring that only safe chemicals be produced and used, chemicals control promotes industry research into the development of safer products. This is key to developing clean and environmentally sound technologies and industrial processes.<sup>13</sup>

The economic benefits of chemicals control legislation make it a profitable investment for the economic development of a country, as it contributes to industrial competitiveness and innovation, health, the environment, and other priority areas.<sup>14</sup> In fact, studies show that companies basing their product portfolios on the elimination or minimization of chemicals of high concern have performed well above average.<sup>15</sup> Studies carried out on the adoption and implementation of the REACH regulation<sup>16</sup> in the EU – generally considered the most stringent regulatory framework for chemicals – also support the case. These studies clearly establish that REACH has reduced costs and has not distorted the competitiveness of Europe’s industry sector.<sup>17</sup>

### 3.4 Chemicals control saves lives and promotes human health

When not controlled and managed in a safe way, some chemicals can kill, cause acute and chronic diseases, and affect the health of future generations. Chemicals control helps reduce exposure to hazardous chemicals, thus saving lives and reducing illness and the costs of health care.

Chemicals control has the potential to protect the health of both workers and the general population, as it ensures that relevant safety information is made available. It also ensures that knowledge on risk management measures for transportation, storage and use are shared with relevant stakeholders, and contributes to improving working conditions and increasing productivity.

<sup>13</sup> Sustainable Development Goals: Goal 9, Target 9.4, UN STATISTICS DIVISION, <https://unstats.un.org/sdgs/metadata/?Text=6Goal=9&Target> (last visited 28 June 2018).

<sup>14</sup> Global Chemicals Outlook, *supra* note 2, at 96.

<sup>15</sup> Chemical Footprint Project, <https://www.chemicalfootprint.org/news/article/chemical-footprint-project-first-report>

<sup>16</sup> Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18 Dec. 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), 2006 O.J. (L 396) 1, available at <https://eur-lex.europa.eu/eli/reg/2006/1907/2018-03-01>.

<sup>17</sup> CENTRE FOR STRATEGY & EVALUATION SERVICES, INTERIM EVALUATION: IMPACT OF THE REACH REGULATION ON THE INNOVATIVENESS OF THE EU CHEMICAL INDUSTRY (14 June 2012), available at [http://ec.europa.eu/environment/chemicals/reach/pdf/studies\\_review2012/report\\_study5.pdf](http://ec.europa.eu/environment/chemicals/reach/pdf/studies_review2012/report_study5.pdf).

In Europe, a study on the benefits of chemicals legislation found a substantial decrease in occupational diseases attributed to chemicals (other than asbestos) following the adoption of chemicals regulations. In EU countries, the progressive reduction in the occurrence of occupational asthma and skin diseases attributed to chemical exposure, has resulted in a total cost savings of about EUR 249.9 million and EUR 1.59–1.87 billion, respectively, over the period 2004–2013.<sup>18</sup>

Chemicals control reduces the costs of health care and the burden on the public health budget. These savings can be used to provide better health care to the whole population, extend the reach of health care systems, or be reinvested into other productive activities. While the direct costs of the registration of chemicals (as required by REACH regulations) are estimated to be EUR 2.3–2.6 billion, the benefits for human health and the environment are estimated to be around EUR 100 billion over 25–30 years.<sup>19</sup>

### Box 2. Chemicals control reduces exposure

A reduction of global mercury emissions by 50–60 per cent between 2005 and 2020 – which would prevent water and fish contamination and the exposure of pregnant women and children – is estimated to result in global economic benefits of \$2.2–2.7 billion in 2020.<sup>20</sup>

<sup>18</sup> European Commission, Study on the Calculation of the Benefits of Chemicals Legislation on Human Health and the Environment, available at [http://ec.europa.eu/environment/chemicals/reach/pdf/study\\_final\\_report.pdf](http://ec.europa.eu/environment/chemicals/reach/pdf/study_final_report.pdf).

<sup>19</sup> European Commission Fact Sheet: Reach Review, European Commission (5 Mar. 2018), [http://europa.eu/rapid/press-release\\_MEMO-18-1363\\_en.htm](http://europa.eu/rapid/press-release_MEMO-18-1363_en.htm).

<sup>20</sup> 2005 USD, Kyrre Sundseth et al., Economic Benefits from Decreased Mercury Emissions: Projections for 2020, JOURNAL OF CLEANER PRODUCTION 18, P.386 (2010), available at <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.666.9903&rep=rep1&type=pdf>.

Chemicals control also creates economic benefits by preventing disease in future generations. The elimination of lead in petrol resulted in \$2.4 trillion in annual benefits and 1.2 million fewer premature deaths.<sup>21</sup> The cumulative cost burden from childhood exposure to lead in low- and middle-income countries has been conservatively estimated to be \$977 billion per year.<sup>22</sup> This calculation does not take into account a number of other well-established costs of lead contamination, such as the cost of lead paint removal.

Exposure to chemicals affects both women and men but the health impacts are often gender-differentiated, due to their respective roles and responsibilities in society.<sup>23</sup> Of particular concern is the exposure of workers in areas where the use of chemicals is extensive, such as in agriculture, or in the production of textiles and electronics.

When pregnant or lactating women are exposed to hazardous chemicals, the transfer of these chemicals to the foetus or child can cause irreversible damage to the child's development. Male reproductive health is also known to be negatively affected by certain chemicals.<sup>24</sup> Children are, in many cases, more prone to the effects of chemicals than adults, and exposure at an early age may cause lasting damage – for example, to the nervous system and reproductive capacity. Chemicals control can help prevent the “silent pandemic”<sup>25</sup> of children born with dozens of hazardous substances already in their bodies.<sup>26</sup>

<sup>21</sup> Phase-out of Leaded Petrol Brings Huge Health and Cost Benefits—UN-backed Study, UN NEWS (27 Oct. 2011), <https://news.un.org/en/story/2011/10/393292-phase-out-leaded-petrol-brings-huge-health-and-cost-benefits-un-backed-study>.

<sup>22</sup> Teresa M. Attina & Leonardo Trasande, Economic Costs of Childhood Lead Exposure in Low- and Middle-Income Countries, 121 ENVTL. HEALTH PERSP. 1097-1102 (2013), available at <https://ehp.niehs.nih.gov/wp-content/uploads/121/9/ehp.1206424.pdf>.

<sup>23</sup> UNEP, GLOBAL GENDER AND ENVIRONMENT OUTLOOK 103 (2016), available at <http://wedocs.unep.org/bitstream/handle/20.500.11822/14764/GLOBAL%20GENDER%20AND%20ENVIRONMENT%20OUTLOOK.pdf?sequence=1&isAllowed=y>; WECF, WOMEN AND CHEMICALS: THE IMPACT OF HAZARDOUS CHEMICALS ON WOMEN (2016), available at [http://www.wecf.eu/download/2016/March/WomenAndChemicals\\_PublicationIWD2016.pdf](http://www.wecf.eu/download/2016/March/WomenAndChemicals_PublicationIWD2016.pdf).

<sup>24</sup> HEAL (2014) Health costs in the European Union – How much is related to EDCs? with [https://www.env-health.org/IMG/pdf/18062014\\_final\\_health\\_costs\\_in\\_the\\_european\\_union\\_how\\_much\\_is\\_related\\_to\\_edcs.pdf](https://www.env-health.org/IMG/pdf/18062014_final_health_costs_in_the_european_union_how_much_is_related_to_edcs.pdf)

<sup>25</sup> Philippe Grandjean & Philip J. Landrigan, Neurobehavioural Effects of Developmental Toxicity, 13 LANCET NEUROL 330 (2014), available at [https://www.thelancet.com/pdfs/journals/laneur/PIIS1474-4422\(13\)70278-3.pdf](https://www.thelancet.com/pdfs/journals/laneur/PIIS1474-4422(13)70278-3.pdf); Rep. of the Special Rapporteur on the Implications for Human Rights of the Environmentally Sound Management and Disposal of Hazardous Substances and Wastes on its Mission to the Republic of Korea, U.N. Doc. A/HRC/33/41, at 3 (2 Aug. 2016), available at [http://ap.ohchr.org/documents/alldocs.aspx?doc\\_id=26940](http://ap.ohchr.org/documents/alldocs.aspx?doc_id=26940).

<sup>26</sup> Gian Carlo Di Renzo et al., International Federation of Gynecology and Obstetrics Opinion on Reproductive Health Impacts of Exposure to Toxic Environmental Chemicals, 131 INT'L J. GYNECOLOGY & OBSTETRICS 219 (2015), available at [https://ac.els-cdn.com/S0020729215005901/1-s2.0-S0020729215005901-main.pdf?\\_tid=34a258f1-42e8-411b-898a-8d9ceadb62c0&acdnat=1530210713\\_32709299a8cf5d3b09582eb9debbb7ca](https://ac.els-cdn.com/S0020729215005901/1-s2.0-S0020729215005901-main.pdf?_tid=34a258f1-42e8-411b-898a-8d9ceadb62c0&acdnat=1530210713_32709299a8cf5d3b09582eb9debbb7ca).

**Box 3. Chemicals control addresses hazardous chemicals**

Restrictions/bans on persistent organic pollutants (POPs), lead, mercury, pesticides and asbestos have contributed to protecting human health and the environment in many countries. However, over 800,000 people are estimated to die from lead exposure every year. Lead exposure also lowers children's IQ, severely impacting new generations. Exposure to lead, which can occur through poor working conditions or contact with dust or contaminated food and water, is responsible for 4 per cent of the global burden of ischaemic heart disease and 6.6 percent of the global burden of strokes.<sup>27</sup>

Asbestos is still used in many countries. A chemicals control intervention in the form of asbestos bans could globally prevent over 100,000 deaths a year.<sup>28</sup>

**3.5 Chemicals control protects the environment**

Functional ecosystem services such as crop pollination, flood prevention and water filtration underpin all aspects of a country's economy. From algae to bees and corals to fish species, all benefit from the improved management of chemicals.

When a country implements chemicals controls it improves knowledge of the hazards of produced or imported chemicals. This knowledge contributes to improved risk management in areas such as pollution prevention and control, and waste management, which, in turn, supports the protection of biodiversity and ecosystem services. In this way, costly measures – such as the relocation of populations whose food and water sources have become contaminated – can be avoided.

By banning or reducing the use of certain hazardous chemicals, chemicals control legislation can reduce exposure to hazardous substances and prevent the pollution of air, land and water.

27 UNEP, Lead Infographic (2017), available at [http://wedocs.unep.org/bitstream/handle/20.500.11822/17269/FINAL\\_Lead\\_infog\\_en.pdf?sequence=1&isAllowed=y](http://wedocs.unep.org/bitstream/handle/20.500.11822/17269/FINAL_Lead_infog_en.pdf?sequence=1&isAllowed=y)

28 European Environmental Agency, *Late Lessons from Early Warnings: The Precautionary Principle 1896–2000*, 52 (2001), available at [https://www.eea.europa.eu/publications/environmental\\_issue\\_report\\_2001\\_22](https://www.eea.europa.eu/publications/environmental_issue_report_2001_22); UN Environment, *Towards a Pollution-free Planet*, available at [http://wedocs.unep.org/bitstream/handle/20.500.11822/21213/Towards\\_a\\_pollution\\_free\\_planet\\_advance%20version.pdf?sequence=2&isAllowed=y](http://wedocs.unep.org/bitstream/handle/20.500.11822/21213/Towards_a_pollution_free_planet_advance%20version.pdf?sequence=2&isAllowed=y)

**Volatile organic compounds and mercury emissions account for 5.7-13 per cent of the annual \$2-4.5 trillion cost of losses to ecosystem services and biodiversity<sup>29</sup>**

### 3.6 Chemicals control is part of the implementation of international obligations and commitments

Most countries have subscribed to multilateral environmental agreements (MEAs) that contain internationally agreed obligations regarding chemicals and waste, such as the Basel, Rotterdam, Stockholm and Minamata Conventions and the Montreal Protocol. Chemicals control legislation is a critical tool that enables countries to exercise their authority over the chemicals produced, imported and used in their territory. This is a prerequisite to their compliance with international obligations on chemicals and waste.



Other relevant international policy frameworks include the Strategic Approach to International Chemicals Management (SAICM) and its Overall Orientation and Guidance (OOG). The latter identifies the basic elements that need to be in place in a country for

<sup>29</sup> UNEP, Costs of Inaction on the Sound Management of Chemicals 11-12 (2013), available at [https://wedocs.unep.org/bitstream/handle/20.500.11822/8412/-Costs%20of%20inaction%20on%20the%20sound%20management%20of%20chemicals-2013Report\\_Cost\\_of\\_Inaction\\_Feb2013.pdf?sequence=3&isAllowed=y](https://wedocs.unep.org/bitstream/handle/20.500.11822/8412/-Costs%20of%20inaction%20on%20the%20sound%20management%20of%20chemicals-2013Report_Cost_of_Inaction_Feb2013.pdf?sequence=3&isAllowed=y)

achieving sound chemicals management; these include “legal frameworks that address the life cycle of chemicals and waste; relevant enforcement and compliance mechanisms; the inclusion of the sound management of chemicals and waste in national health, labour, social, environment and economic budgeting processes and development plans; and systems for sharing information such as classification and labelling according to the GHS.”<sup>30</sup>



Furthermore, chemicals control is essential to human rights. Chemicals control protects the right to health, the right to water and sanitation, the right to food, the rights of the child, and workers’ rights.<sup>31</sup> Chemicals control legislation makes information available and improves understanding that, in turn, enables people to exercise their rights. By preventing the production and use of the most toxic substances, and by making information available on how to manage chemicals safely, chemicals control legislation is an important element of complying with international obligations to uphold these fundamental human rights.

### 3.7 Chemicals control is necessary for sustainable national development

Sound chemicals and waste management are considered a prerequisite for achieving sustainable development. Sound chemicals management greatly improves the potential for sustainable economic growth and the capacity to dedicate sufficient resources to address poverty and hunger, which positively impacts a country’s development potential.

The 2030 Agenda for Sustainable Development<sup>32</sup> and its 17 Sustainable Development Goals (SDGs) were adopted by the General Assembly of the United Nations in 2015. Sound management of chemicals and waste (SMCW) is a specific target under SDG 12 on Sustainable Consumption and Production.

<sup>30</sup> Guidance for Achieving the 2020 Goal, supra note 2, paragraph ¶ 19(b).

<sup>31</sup> Annual reports of the UN Special Rapporteur on human rights and hazardous substances and wastes, available at <https://www.ohchr.org/EN/Issues/Environment/ToxicWastes/Pages/Annual.aspx>

<sup>32</sup> G.A. Res. 70/1, Transforming Our World: The 2030 Agenda for Sustainable Development (21 Oct. 2015), [http://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A\\_RES\\_70\\_1\\_E.pdf](http://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_RES_70_1_E.pdf).





Adequately managing chemicals is critical to implementing the SDGs at the national level and should therefore be part of national sustainable development strategies. The Inter-Organization Programme for the Sound Management of Chemicals (IOMC), has concluded that chemicals and waste affect all aspects of development. Sound chemicals management is therefore relevant for, and provides measures that support, the implementation of all the SDGs.<sup>33</sup>

The global trend is an increase in the production and use of chemicals in all regions of the world. As a critical aspect of sound chemicals management – and one that is still lacking in many countries – it is increasingly important for countries to establish legal frameworks for industrial and consumer chemicals.

#### Box 4. SDG targets that explicitly mention chemicals

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

3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals...

Goal 6: Ensure access to water and sanitation for all.

6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals...

Goal 12: Ensure sustainable consumption and production patterns.

12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle...

<sup>33</sup> See IOMC brochure at [http://www.who.int/iomc/Chemicals\\_SDGs\\_interactive\\_Feb2018.pdf](http://www.who.int/iomc/Chemicals_SDGs_interactive_Feb2018.pdf)

## FURTHER READING

More information to support national action can be found in the complementary guidance documents:

- National Authority for Chemicals Control: Structure and Funding
- Risk Reduction Tools for Chemicals Control
- Enforcement of Chemicals Control Legislation

Attina T.M., Trasande L. (2013) Economic Costs of Childhood Lead Exposure in Low- and Middle-Income Countries. *Environmental Health Perspectives* 121(9): 1097-1102

<https://ehp.niehs.nih.gov/1206424/>

CIEL, Driving Innovation: How stronger laws help bring safer chemicals to market

[http://www.ciel.org/Publications/Innovation\\_Chemical\\_Feb2013.pdf](http://www.ciel.org/Publications/Innovation_Chemical_Feb2013.pdf)

European Commission, EU Commission, Study on the Calculation of the Benefits of Chemicals Legislation on Human Health and the Environment

[http://ec.europa.eu/environment/chemicals/reach/pdf/study\\_final\\_report.pdf](http://ec.europa.eu/environment/chemicals/reach/pdf/study_final_report.pdf)

European Environment Agency, Late Lessons from Early Warnings: the Precautionary Principle 1896-2000

[https://www.eea.europa.eu/publications/environmental\\_issue\\_report\\_2001\\_22](https://www.eea.europa.eu/publications/environmental_issue_report_2001_22)

Food and Agriculture Organization of the United Nations (FAO) and World Health Organization (WHO), International Code of Conduct on Pesticides Management: Guidelines on Highly Hazardous Pesticides

<http://www.fao.org/3/a-i5566e.pdf>

GEF Guidance on Emerging Chemicals Management Issues in Developing Countries and Countries with Economies in Transition

<http://www.stapgef.org/sites/default/files/stap/wp-content/uploads/2013/05/ECMI-Overview.pdf>

UNEP Global Chemicals Outlook [http://wedocs.unep.org/bitstream/handle/20.500.11822/8455/-Global%20chemicals%20outlook\\_%20towards%20sound%20management%20of%20chemicals-2013Global%20Chemicals%20Outlook.pdf?sequence=3&isAllowed=y](http://wedocs.unep.org/bitstream/handle/20.500.11822/8455/-Global%20chemicals%20outlook_%20towards%20sound%20management%20of%20chemicals-2013Global%20Chemicals%20Outlook.pdf?sequence=3&isAllowed=y)

Global Chemicals Outlook, Synthesis Report for Decision Makers

[http://wedocs.unep.org/bitstream/handle/20.500.11822/8264/-Global%20Chemicals%20Outlook\\_%20synthesis%20report%20for%20decision-makers-2012Global%20Chemical%20Outlook.pdf?sequence=3&isAllowed=y](http://wedocs.unep.org/bitstream/handle/20.500.11822/8264/-Global%20Chemicals%20Outlook_%20synthesis%20report%20for%20decision-makers-2012Global%20Chemical%20Outlook.pdf?sequence=3&isAllowed=y)

Global Chemicals Outlook II , Synthesis Report (2019) <https://www.unenvironment.org/resources/report/global-chemicals-outlook-ii-legacies-innovative-solutions>

IOMC Brochure, 2018: Sound management of chemicals and waste as key factors for achieving the SDGs.

[http://www.who.int/iomc/Chemicals\\_SDGs\\_interactive\\_Feb2018.pdf](http://www.who.int/iomc/Chemicals_SDGs_interactive_Feb2018.pdf)

IOMC Toolbox for Decision-Making in Chemicals Management

<http://iomctoolbox.oecd.org/default.aspx?idExec=2e8c1309-d7fb-4e8d-add2-ca2b2381580a>

IPEN, Sound Chemicals Management in the Context of the Post-2015 Development Goals

[http://ipen.org/sites/default/files/documents/O.%20Speranskaya%20Sound%20Chemicals%20Management%20in%20the%20Context%20of%20the%20Post%202015%20Development%20Goals%20.pptx\\_.pdf](http://ipen.org/sites/default/files/documents/O.%20Speranskaya%20Sound%20Chemicals%20Management%20in%20the%20Context%20of%20the%20Post%202015%20Development%20Goals%20.pptx_.pdf)

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SAICM OOG - Overall orientation and guidance for achieving the 2020 goal of sound management of chemicals

<http://www.saicm.org/Portals/12/Documents/OOG%20document%20English.pdf>

SAICM, Proposal on objectives in support of the 2030 Agenda and related milestones

[http://www.saicm.org/Portals/12/Documents/meetings/IP2/IP\\_2\\_8\\_OBJECTIVES-and-SDG.pdf](http://www.saicm.org/Portals/12/Documents/meetings/IP2/IP_2_8_OBJECTIVES-and-SDG.pdf)

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<http://www.un.org/sustainabledevelopment/sustainable-development-goals/>

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<https://www.ncbi.nlm.nih.gov/pubmed/27003928>

UNDP-UNEP Partnership Initiative for the Integration of Sound Management of Chemicals into Development Planning Processes

[http://www.undp.org/content/undp/en/home/librarypage/environment-energy/chemicals\\_management/UNDP-UNEP\\_Partnership\\_for\\_Integration\\_of\\_SMC\\_into\\_Development/](http://www.undp.org/content/undp/en/home/librarypage/environment-energy/chemicals_management/UNDP-UNEP_Partnership_for_Integration_of_SMC_into_Development/)

UNEP Global Gender and Environment Outlook, 2016

<http://wedocs.unep.org/bitstream/handle/20.500.11822/14764/GLOBAL%20GENDER%20AND%20ENVIRONMENT%20OUTLOOK.pdf?sequence=1&isAllowed=y>

UNEP Guidance on the Development of Legal and Institutional Infrastructures and Measures for Recovering the Costs of National Administration (LIRA)

[http://wedocs.unep.org/bitstream/handle/20.500.11822/12224/LIRA\\_Guidance%20Report\\_PRESS.pdf?sequence=1&isAllowed=y](http://wedocs.unep.org/bitstream/handle/20.500.11822/12224/LIRA_Guidance%20Report_PRESS.pdf?sequence=1&isAllowed=y)

UNEP-WHO Health and Environment Strategic Alliance

<https://www.unenvironment.org/explore-topics/chemicals-waste/what-we-do/policy-and-governance/health-and-environment-strategic>

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UNEP, the sound management of chemicals and wastes in the context of the Sustainable Development Goals

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