



FUTURE
POLICY
AWARD

PROTECTION
FROM HAZARDOUS
CHEMICALS





Inger Andersen
Executive Director of the
United Nations Environment
Programme (UNEP)



The lack of sound management of chemicals, which are part and parcel of daily life, is toxifying our planet and all life on it. It is absolutely imperative to strengthen good governance of chemicals and waste - through effective, inspiring, and innovative laws and policies, such as those represented by the winners of the Future Policy Award 2021. They set a precedent, which hopefully many governments will follow.



Svenja Schulze
German Federal
Environment Minister



The global proliferation of hazardous chemicals requires a worldwide commitment to the safe and environmentally sound management of these substances. Through this year's prize selection, the Future Policy Award draws attention to laws that do just that: protect people and the environment from hazardous chemicals. Colombia, Kyrgyzstan, Sweden, Sri Lanka and the Philippines have courageous regulations that deserve this award. I hope they will inspire other countries to be more ambitious in their chemicals policies.



Prof. Dr. Michael Otto
Entrepreneur, Co-founder
and Honorary Councillor
of the World Future Council



Chemicals have become an integral part of our everyday lives. This makes it all the more important to deal with them responsibly! We can no longer accept the increasing poisoning of our planet. Children in particular suffer from the consequences. The winners of the Future Policy Award 2021 demonstrate that a lot can be achieved through good legislation.



Achim Steiner
Administrator of the United
Nations Development
Programme (UNDP)



Every year, 1,500 new chemicals enter the market. Many of them have never been properly tested for safety and toxicity and may cause irreversible harm to the health of humans, fauna, flora and ecosystems. The Future Policy Award 2021 winning policies from Colombia, Kyrgyzstan, the Philippines, Sri Lanka and Sweden are all impactful solutions that tackle critical aspects of this global challenge.



FUTURE POLICY AWARD 2021

Dear reader,

Championing and spreading effective, future-just policy solutions is the principal goal of the World Future Council. Our Future Policy Award is the first award that celebrates legislation and policies for the benefit of current and future generations at an international level. The aim of the award is to raise global awareness about these exemplary laws and speed up action towards just, sustainable and peaceful societies.

Each year we select a priority topic in which policy action is particularly needed. Some of the key global issues that we have addressed include children's rights, youth empowerment, food security, agroecology.

In 2021, we are awarding policy solutions that protect people, especially children, and the environment from hazardous chemicals.

40,000 EXPERTS from intergovernmental organisations, non-profit organisations, academic and research institutions, government agencies, development banks, and other organisations received our call for nominations.

55 POLICIES from **36 COUNTRIES** were nominated. We received 12 nominations from Africa, 12 from Asia, 19 from Europe, 6 from South America, and 6 from North America and the Caribbean. Over **40 EXPERTS** assisted us in our careful screening and evaluation of all nominations.

In March 2021, the World Future Council's research team presented a total of **12 EFFECTIVE POLICY CANDIDATES** to the Future Policy Award 2021 Jury. The policies selected for competition fall into **4 DIFFERENT CATEGORIES:**

- Chemicals Across the Lifecycle
- Highly Hazardous Pesticides
- Lead in Paint and
- Environmentally Persistent Pharmaceutical Pollutants.

The **7 RENOWNED MEMBERS OF THE JURY** recommended **5 POLICIES** for the Future Policy Award, which best fulfil the future-just policy criteria and can serve as inspiring examples for policymakers in other countries or regions.

We are proud to present to you the winners of the Future Policy Award 2021 and we encourage policymakers globally to adopt and implement key elements of these inspiring, innovative and effective policies in their own countries, states and cities.

The Future Policy Award 2021 would not have been possible without our partners and donors! The World Future Council would like to sincerely thank all of them for their generous support – and all the jury members and nominators, researchers and experts who have supported our evaluation process. We are immensely grateful for your precious work and recommendations.

Enjoy reading and do visit our website to find out more about the 2021 Awardees.

Yours sincerely,
The Future Policy Award Team



Future Policy Award's website:

www.worldfuturecouncil.org/future-policy-award

A SPOTLIGHT ON CHILDREN AND CHEMICALS

LEAD



743,000

cases of deaths and of intellectual disabilities in children are caused by lead exposure every year (OHCHR)



4 TO 5 TIMES

the amount of toxins from a given source is absorbed by children compared to adults (WHO)



USD

977,000,000,000

are the costs associated with the decrease in Intelligence Quotient (IQ) of children affected by lead exposure in low- and middle-income countries (UNICEF)



1,700,000

children died from modifiable environmental factors, such as air pollution and water contamination, in 2017 (WHO)

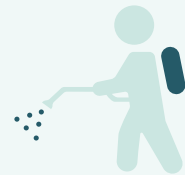
ENVIRONMENTALLY PERSISTENT PHARMACEUTICAL POLLUTANTS



2015

was the year when stakeholders formally adopted environmentally persistent pharmaceutical pollutants as an emerging policy issue in the context of SAICM, which may cause risks to children and the foetus via drinking water or food.

HIGHLY HAZARDOUS PESTICIDES



108,000,000

children are engaged in agricultural work globally. Children regularly work in the fields during, or following, the spraying season when levels of pesticide residues are high (UNICEF)



**UP TO
100 PERCENT**

of residues of multiple banned hazardous pesticides were found in Thailand on fruits and vegetables sold in local markets and supermarkets (UNICEF)



50 PERCENT

of the 2 million pesticide poisoning incidents in the USA each year involve children younger than six years (US EPA)

HAZARD WARNING

CHEMICALS CAN CAUSE IRREVERSIBLE HARM

In our world today, chemicals can be found nearly everywhere. Industries use them for resource extraction, energy production and manufacturing. Farmers use chemicals to control pests and diseases or to promote growth. We find chemicals in our food, our medicine and in nature. Chemicals can be beneficial to our daily lives; however, they can also have adverse effects on human health and the environment.

Currently, there are over **40,000 INDUSTRIAL CHEMICALS** in commerce worldwide and more than hundreds of new chemicals enter the market every year.¹ Far too few have been properly tested for safety.²

Particularly problematic are chemicals that cause hazard to our environment – in water bodies, soil or air, in the food chain or drinking water – and which accumulate in our bodies. Hazardous chemicals, including phthalates, heavy metals, such as lead, pesticides, and environmentally persistent pharmaceutical pollutants, can cause irreversible harm to the health of humans, fauna, flora and ecosystems.

Children can be particularly affected, and babies can be born with harmful chemicals in their bodies.

The World Health Organization estimates that in 2016 alone, over **1.6 MILLION PEOPLE** died directly or indirectly from exposure to chemicals. And this number is rising.³

While all populations may be exposed to chemicals, workers tend to face exposure to higher doses and

over longer time periods. Estimates published by the International Labour Organization have found that exposure to hazardous substances claim the lives of almost **1 MILLION WORKERS** each year.⁴

People in developing countries and countries with economies in transition are disproportionately suffering from the mismanagement of chemicals and waste.⁵ There are clear linkages between toxic exposures and poverty.⁶

In the European Union, costs from neuro-behavioural deficits caused by exposure to certain chemicals is estimated to be more than **USD 170 BILLION** per year.⁷

Many types of pollution are increasing and have significant negative impacts on nature. Untreated urban and rural waste, pollutants from industrial, mining, and agricultural activities, oil spills, and toxic dumping all have serious negative effects on soil, freshwater, and marine water quality.⁸

Chemicals should not cause harm to human health or the environment. We need sound management of chemicals and waste that aims to prevent and, where this is not (yet) feasible, to minimise the exposure of people and the environment to hazardous substances. Sound management addresses the whole lifecycle of chemicals – from production to usage to disposal. To attain sound chemical and waste management, legal frameworks and policies play a critical role. The good news is that such fundamental policy solutions are available!

1 <https://www.unep.org/resources/report/global-chemicals-outlook-ii-legacies-innovative-solutions>

2 https://wedocs.unep.org/bitstream/handle/20.500.11822/22416/Perspective_No_29_web.pdf?sequence=1&isAllowed=y

3 <https://www.who.int/publications/i/item/WHO-FWC-PHE-EPE-16.01-eng>

4 https://www.ilo.org/wcmsp5/groups/public/-ed_dialogue/-lab_admin/documents/publication/wcms_791876.pdf

5 <http://www.saicm.org/Portals/12/documents/saicmtxts/SAICM-publication-EN.pdf>

6 <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/689811468315541722/toxics-and-poverty-the-impact-of-toxic-substances-on-the-poor-in-developing-countries>

7 <http://www.saicm.org/Portals/12/Documents/meetings/OEWG3/inf/OEWG3-INF-3-CGOII-Summary.pdf>

8 <https://ipbes.net/global-assessment>

AWARD-WINNING POLICIES

GOLD AWARDS

CHEMICALS ACROSS THE LIFECYCLE



**Kyrgyzstan's Resolution
No. 43 on Approval of
the Chemical Hazard
Classification System
and Hazard Information
Requirements (2015)**

Kyrgyzstan was one of the still too few countries in the world to make the 'Globally Harmonized System of Classification and Labelling of Chemicals' (GHS) legally binding. GHS regulations are an essential fundament of the sound management of chemicals and waste, including the control and supervision of production, import, sale, use and end-of-life management.



**Sweden, Region Stockholm:
Phase-Out Lists for
Chemicals Hazardous
to the Environment and
Human Health (2012–2016,
revised for 2017–2021)**

Region Stockholm's lists define chemicals that are hazardous to the environment and human health, with the goal to reduce or gradually phase out these substances through the procurement system, as persuasive precedence for all other users, retailers and consumers. The requirements are often higher than those set out by EU chemical legislation.



SPECIAL AWARD
HIGHLY HAZARDOUS
PESTICIDES



Sri Lanka's Control of Pesticides Act No. 33 (1980, amended in 1994, 2011, 2020) and the National Policy and Action Plan on Prevention of Suicide (1997)

With this Act, Sri Lanka ensures that only pesticides of the highest quality and less hazardous to human health and the environment are available. The Act is integrated into the National Policy on Prevention of Suicide, which explicitly supports the use of pesticide regulations to reduce suicide.

SPECIAL AWARD
LEAD IN PAINT



Philippines' Chemical Control Order for Lead and Lead Compounds (2013–2024)

The Philippines were the first Southeast Asian country to successfully implement legislation mandating lead-safe paint. The extensive cooperative efforts of various stakeholders during the policy formulation and implementation also inspired this element of the UNEP's Model Law and Guidance for Regulating Lead.

SPECIAL AWARD
ENVIRONMENTALLY
PERSISTENT
PHARMACEUTICAL
POLLUTANTS



Colombia's Resolution No. 371 Establishing the Elements to be Considered in the Management Plans for the Return of Pharmaceutical Products and Expired Medicines (2009)

The Resolution places the responsibilities and costs of returning pharmaceutical products on the manufacturers and importers of pharmaceuticals and medications. It is a pioneer in the region and inspired neighbouring countries to develop similar approaches.



GOLD AWARD

CHEMICALS ACROSS THE LIFECYCLE

Kyrgyzstan's Resolution No. 43 on Approval of the Chemical Hazard Classification System and Hazard Information Requirements (2015)

The Kyrgyz Republic is one of the still too few countries in the world to make the 'Globally Harmonized System of Classification and Labelling of Chemicals' (GHS) legally binding. The GHS is an internationally agreed-upon system managed by the UN for classification of chemicals by types of hazard. In addition, it proposes harmonized hazard communication elements, including labels and safety data sheets.

GOLD AND WASTE

Kyrgyzstan has been at the crossroads of great civilisations as part of the silk road and other commercial routes. It spreads over a mountainous region in Central Asia, which is rich in mineral resources. The country's economy depends heavily on gold mining. However, illegal mining activities also exist. Stocks and legacies of persistent toxic chemicals from Soviet-times such as dichlorodiphenyltrichloroethane (DDT) can still be found in old warehouses or buried in poorly managed sites. 'Waste miners' have been found digging out old pesticides and selling them on the local market.

Resolution No. 43 is part of the overall government policy on management of chemicals for the benefit of human health and the environment. GHS regulations are an essential fundament of the sound management of chemicals and waste, including the control and supervision of their production, import, and sale.

Government institutions communicate closely on the classification and labelling of chemicals. Today, the provisions reflect the work of all relevant government agencies and ministries, with budgets allocated within each entity. The Resolution also initiated a new inventory of obsolete pesticide stockpiles in the country.

CLASSIFICATION AND LABELLING

By establishing uniform requirements for classification and labelling, the Resolution helped Kyrgyzstan facilitate international trade. As of December 2019, all imported fertilisers (nearly **160,000 tonnes**) have been checked for compliance with GHS requirements. 14 pesticide suppliers and 42 fertiliser suppliers now apply GHS hazard classification and labelling of all imported products.



Companies in the country are implementing standards to ensure safety in the workplace, with more than 6,500 employees trained. Workers in the largest industrial companies, including mining operations, as well as employees of 219 governmental institutions receive technical training and information on GHS requirements. This includes information for safe handling of chemicals at the workplace.

The Resolution also influences the transition to organic agriculture. A concept for the development of organic agriculture for rural and mountainous communities was approved. Over 20 villages have started implementing organic agriculture with technical, legal and financial support from the Ministry of Agriculture, Food Industry and Reclamation.

DRAFTING TOGETHER

Kyrgyzstan's Resolution No. 43 is one of the very few examples where a legal act was initiated by an NGO and developed jointly with the government and stakeholders in a transparent and inclusive manner. The Resolution was pioneered by

Independent Ecological Expertise (IEE), an NGO working on the development of environmental legislation. Further drafting was conducted jointly by governmental agencies, chemical product manufacturers, retailers, and civil society organisations. Implementation of the Resolution is regularly considered in a multi stakeholder coordination group.

'Fear makes mountains out of molehills,' an NGO representative observed. Consequently, transparent and accessible information, as well as awareness-raising materials were a focus and shared via brochures, product labels and data sheets. A recent survey has shown that Kyrgyzstan's consumers are increasingly aware of potential hazardous effects of chemicals. Seven out of ten consumers now pay attention to product labelling.

The Kyrgyz Republic's exemplary approach can inspire other countries in transition to implement a holistic and comprehensive view on public health issues, occupational health and safety, and the environment.



GOLD AWARD CHEMICALS ACROSS THE LIFECYCLE

Sweden, Region Stockholm: Phase-Out Lists for Chemicals Hazardous to the Environment and Human Health (2012–2016, revised for 2017–2021)

To protect the environment and the health of employees, patients, and citizens, Region Stockholm has issued two phase-out lists for hazardous substances. The lists identify chemicals that are hazardous to the environment and human health, with the goal to phase out these substances step by step in the procurement system, as persuasive precedence for all other users, retailers and consumers. The lists comprise chemicals in chemical products as well as in products such as consumables and articles used in laboratories, healthcare, dentistry, IT, cleaning, or textiles. Some chemicals are categorised for phase out and others are banned. Approximately 108 individual and groups of substances are listed, covering a large number of specified classifications, such as ‘may cause cancer’, and ‘may cause inheritable genetic damage’.

VERY STRICT CRITERIA

Region Stockholm’s phase-out lists are publicly available and this transparency provides a level playing field for all companies. Every fifth year, the lists are updated with higher requirements. These requirements are often stricter than those set out by the EU chemical legislation ‘Registration,

Evaluation, Authorisation and Restriction of Chemicals’ (REACH): In 2016, more than **90 individual and groups of substances** on Stockholm’s phase-out lists were not yet included in the REACH candidate list.

Region Stockholm’s lists are applied during the public procurement process. In order to participate in a tender, companies must adhere to the lists and must ensure that their offers meet the therein specified chemical requirements. As a result, a significant proportion of hazardous chemicals has been phased out. For instance, Region Stockholm has phased out phthalates from many of the products procured, including medical devices, as well as allergy-inducing perfumes or preservatives from chemical products. Moreover, the healthcare sector has made a **90 percent reduction** in the use of listed substances, decreasing volumes in weight from 1,135 to 115 kilogrammes.

The Region also refers product samples for chemical testing to ensure that the declared product contents are correct. If not, contract penalties apply. Suppliers that do not correct deviations, may potentially be terminated. From 2018 to 2019, for example, 81



suppliers were audited in 17 agreements related to products and services. The agreements included various healthcare products as well as transport and moving services.

THE WORST CASE LIZARD

Stockholm also scrutinises its past procurements, striving to clear out hazardous substances. Old PVC toys in Stockholm's pre-school were tested, for example, and 90 percent of the old toys were found to contain phthalates at varying levels. Phthalates are used to soften PVC plastic and can damage the liver, kidneys, lungs, and reproductive system. A 'worst case' toy lizard consisted of approximately 42 percent of restricted phthalates. These old toys were then replaced with new ones which only contained trace amounts under the 0.1 percent level.

Region Stockholm's environmental programmes cover a five-year period. Prior to the upcoming period, the chemical goals are reviewed and revised. During the present period, a focus has been on the registration and accounting of phase-out hazardous chemicals used in the operation and maintenance of public transport services. This has resulted in

increased knowledge with regards to chemical content and hazards in public transportation. It became evident that more work is needed to substitute and reduce hazardous chemicals in this particular area. Region Stockholm's phase out lists provide the founding chemical framework for continuous improvements in this field.

Region Stockholm's policy demonstrates that phasing out the most hazardous chemicals is possible without negative consequences for economic development, but with positive benefits for society. The phase-out list is public and can serve as an inspiration for regions and counties in Sweden and elsewhere.



SPECIAL AWARD HIGHLY HAZARDOUS PESTICIDES

Sri Lanka's Control of Pesticides Act No. 33 (1980, amended in 1994, 2011, 2020) and the National Policy and Action Plan on Prevention of Suicide (1997)

SELF-POISONING WITH PESTICIDES is one of the most common suicide methods globally. It causes up to one in five of the world's suicides, accounting for 14 million deaths between 1960 – when highly hazardous pesticides were introduced into rural agriculture – and 2018.

South Asia has the highest rate of suicides from pesticides in the world. Furthermore, more than 300,000 workers die annually due to unintentional acute pesticide poisoning.

From 1950 to the 1990s, suicide rates in Sri Lanka increased eight-fold. Sri Lanka had one of the world's highest suicide rates, and pesticide poisoning accounted for more than two thirds of all cases. In 1978 alone, over 1,000 people in Sri Lanka killed themselves with pesticides, and in 1979, the rate was 79 cases of pesticide poisoning per 100,000 people. The high mortality rates resulted from easy access to highly hazardous pesticides (HHPs), which were stored in, or in close vicinity to, the homes and common use areas of small-scale farmers. Additionally, these HHPs could be easily purchased from stores without any regulations in place.

BANNING THE MOST DANGEROUS PESTICIDES

The Pesticides Act ensures that only pesticides of the highest quality and less hazard to human health and the environment are available. It was used in particular to ban HHPs.

The HHP bans markedly reduced pesticide-related suicides. Now, more people survive spontaneous acts of pesticide poisoning. Sri Lanka's pesticide regulations have contributed to one of the greatest



Young woman and her child in the North Central Province of Sri Lanka after surviving her act of pesticide self poisoning due to the relatively low toxicity of many commonly used pesticides.

decreases in suicide rates ever achieved in the world: The country's suicide rate has been **reduced by 70 percent**, particularly in rural villages and of children and young adults aged 17 to 25 years.

Remarkably, this feat was achieved without a big budget. The bans **saved about 93,000 lives** over 20 years at a direct government cost of less than USD 50 per life. At the same time, supported by further well-considered measures, Sri Lanka has managed to maintain its agricultural productivity.

CHEMICAL SAFETY FOR FARMERS

The Government adopted the Pesticides Act in 1980. Over the years, the country has banned a total of 36 of the most dangerous pesticides. The first wave of bans entered into force in 1984, prohibiting pesticides known to be related to suicide (parathion, methyl-parathion). From 1992 to 1995, further bans were implemented. In 1998, a rise in deaths due to the organochlorine insecticide endosulfan was noted, and it was banned immediately. An additional regulatory ban of the pesticides dimethoate, fenthion, and paraquat took place

between 2008 and 2011, which reduced suicide rates by 50 percent.

The Act sets up governing bodies, provides for licensing of pesticides, and regulates their import, labelling, and use, among other things. During registration, pesticides are tested in field trials. If a substance is banned, alternatives are identified. Farmers are informed about these alternatives through government agriculture extension services and training programmes. Two million farming households are benefitting from increased chemical safety.

LEADING THE WORLD

The Sri Lankan approach is simple, pragmatic, cost-effective, and adequately implemented. It shows how national HHP bans can reduce suicide rates in an impressive manner. Since Sri Lanka's initial pioneering efforts, Bangladesh, the Republic of Korea, and further countries, have introduced HHP bans, and reduced their pesticide suicide rates. Hence, Sri Lanka is world leader in integrating the issue of suicide into pesticide policy.



SPECIAL AWARD LEAD IN PAINT

Philippines' Chemical Control Order for Lead and Lead Compounds (2013–2024)

The United Nations Special Rapporteur on toxic waste estimates that **EXPOSURE TO LEAD** causes 143,000 cases of deaths, and 600,000 cases of intellectual disabilities in children every year. Since many low- and middle-income countries do not impose any or only very high limits on lead paint, it is estimated that children in these areas are most severely affected.

The UN and health scientists worldwide recommend a total lead concentration limit of 90 parts per million (ppm). It is the lowest, most protective regulatory limit for lead paint, which has been adopted by many countries.

With the Chemical Control Order (CCO) for Lead and Lead Compounds, the Philippines were the first Southeast Asian country to successfully implement legislation towards lead-safe paint. The policy's objective is to increase awareness of the toxicity of lead exposure, and to provide safer alternatives to protect the health of the population and the environment.

LEAD-SAFE LEVELS

Since 2007, civil society and the paint industry have been advocating for a lead paint standard. In the early 2000s, the largest Philippine paint company became alarmed by the discussion about lead in paint in high income countries and, because of its extensive market share, saw itself as particularly responsible for switching to lead-safe paints. These are defined as paints with lead levels below 90 ppm.

In 2011, civil society groups and the paint industry collaboratively petitioned the government to establish a regulation that would target the problem of lead in paint by limiting or prohibiting its use. The government presented a draft, but civil society, namely the EcoWaste Coalition of the Philippines,



made it clear that in their view the draft was not going far enough. This was the beginning of a participatory process with stakeholders from civil society, including the International Pollutants Elimination Network (IPEN), the paint industry, representatives from schools and communities, experts from the education and the health sector, as well as local and national governments. Waste handlers, sanitation officers, former police officers, indigenous people, and people with disabilities were also involved. Following these extensive consultations, the government adopted the CCO in 2013, and started implementation in the same year.

POISONING PREVENTION ACTION

The CCO comprises a roadmap with clear definitions, phase-out plans, and decisive instruments with special attention to children. A host of awareness-raising activities were rolled out: Civil society groups designed booklets outlining the impacts of lead exposure on children; the paint industry set up and continues to organise awareness-raising campaigns; and various stakeholders jointly set up the annual 'International Lead Poisoning Prevention Week'. Moreover, the topic has been

integrated into the school curriculum to help teaching children about the health implications of lead exposure. The Order has also been integrated into other national and local policies from different governmental departments.

A HISTORIC MILESTONE

By 2020, the local paint and coating industry, with strong encouragement from the government and civil society, had beaten the phase-out deadline for lead paints as stipulated by the CCO, with a total of **1,395 paint products** certified through the new Lead Safe Paint® Certification programme, which certifies that a certain paint's lead content is **below 90 ppm**.

While only a few countries globally enacted comprehensive bans on the use of lead additives in all paints, the Philippines demonstrate that it is entirely possible to restrict the use of lead in all paints, including 'industrial' paints, which generally have lead concentrations that are up to 10 times higher. The extensive cooperative efforts of various stakeholders during the policy formulation and implementation also inspired this element of the UNEP's Model Law and Guidance for Regulating Lead.



SPECIAL AWARD
ENVIRONMENTALLY
PERSISTENT
PHARMACEUTICAL
POLLUTANTS

Colombia's Resolution No. 371 Establishing the Elements to Be Considered in the Management Plans for the Return of Pharmaceutical Products and Expired Medicines (2009, implementation from 2011)

Around 4,000 active pharmaceutical ingredients are being administered worldwide in prescription medicines, over-the-counter drugs, and veterinary drugs.

While **PHARMACEUTICALS** are stringently regulated for efficacy and patient safety, the adverse side effects they may have in the natural environment are a topic of concern. Partly also due to advances in analytical and detection methods, an increase of pharmaceuticals in various environments, particularly the water cycle, is reported.

Pharmaceutical residues continuously entering the environment are called 'environmentally persistent pharmaceutical pollutants' (EPPPs).

The Colombian Ministry of Environment and Sustainable Development introduced Resolution No. 371 as part of a national programme for regulating waste management of hazardous products. The Resolution also addresses health risks related to the consumption of expired medications. In Colombia, medications are the substances most associated with chemical poisoning, accounting for almost 33 percent of reported cases.

PRODUCER PAYS

The Resolution's remarkable feature is that it places the responsibilities and costs of implementation on the manufacturers and importers of pharmaceuticals and medications.

So-called Post-Consumption Product Return Management Plans (PPRMP) were introduced. Leading up to 2018, 39 PPRMPs had been created. Of 711 manufacturers and importers of medicines, 680 participate in collective plans, which corresponds to **95 percent** of the market share.



2,593 take-back points were established to collect the medicines. The goal of covering 70 percent of the population of Colombia with take-back centres has been reached and nearly **1 million kilogrammes of used medications** have been properly disposed of. Furthermore, the Resolution has positively encouraged the industry to create sustainable disposal alternatives to traditional landfill and incineration methods, such as recycling, energy recovery systems, and composting.

The authorities are in charge of evaluation and follow-up. They check whether returned medications are handled in an environmentally friendly way throughout the entire process of recollection and disposal.

Other important actors are the distributors and merchandisers, such as pharmacies, drugstores, and healthcare centres. They must provide a safe space for the designated take-back points and accept returned medications. They are also responsible for informing consumers about the

health and environmental risks associated with the consumption and improper disposal of expired medications.

CONSUMER AWARENESS

Regarding consumer awareness, in 2018, **78 percent of consumers** of pharmaceuticals reported knowing about the take-back programmes. Awareness-raising campaigns by the government and the industry take place in various locations such as supermarkets, private and public buildings, and educational institutions.

Being the first successful compulsory medicine disposal programme in Latin America, the Resolution is a pioneer in the region and inspired neighbouring countries to develop similar approaches.

INSIGHTS INTO THE POLICIES SHORTLISTED FOR THE AWARD

CHEMICALS ACROSS THE LIFECYCLE

INDIA: Rajasthan's Policy on Pneumoconiosis including Silicosis Detection, Prevention, Control and Rehabilitation (2019)

The Rajasthan Policy is unique in helping victims of dust-related occupational lung diseases, known as pneumoconiosis. The policy already helps around 25,000 people suffering from silicosis, which is caused by exposure to silica dust. It implements the 'polluter-pays' principle, as it is funded by legally required contributions to an independent fund. The policy implements a state-wide comprehensive programme for detection, prevention, control, and elimination of pneumoconiosis. Today, 5,000 to 6,000 new cases are certified each year and more than 85,000 persons have registered for screening and certification. The efforts show systemic changes in the mining sector. The policy has a good potential for replication, especially in low and middle-income countries, which often have insufficient preventative systems in place for the detection, prevention, control and rehabilitation of occupational diseases.

REPUBLIC OF KOREA: Consumer Chemical Products and Biocides Safety Act (2018)

Government, industry, and civil society came together to react jointly to a growing societal concern regarding the health impacts of chemicals. The Act works through safety and labelling standards for consumer chemical products, pre-market approvals, and voluntary agreements. Products for cleaning and laundry, air fresheners and odour-eliminating products, dyes and paints, beauty products, and preservatives, are examples of product groups that are now subject to safety verification. From 2016 to 2020, the number of such 'safety verification-required products' increased from 18 to 39 product types, and the total number of notified products increased from 8,000 to approximately 70,000. An important transparency outcome of the Act is that industry now voluntarily discloses all information on chemical substances in products.

USA: Massachusetts' Toxics Use Reduction Act (TURA) (1989, amended 2006)

Globally, TURA was the pioneering policy addressing hazardous chemicals. The EU REACH regulation, for example, includes several programmatic features of the TURA programme. TURA implements reduction strategies for toxic and hazardous substances, including changes in production processes or raw materials. The Act is data driven, informed by scientific findings, and has shown excellent cooperation between all stakeholders. For financing, the 'polluter pays'. A grant scheme allows stakeholders such as NGOs, community groups, academia, and industry to implement aspects of chemical safety. Between 2007 and 2017, TURA worked with 420 companies, eliminating 860 million kilogrammes of hazardous chemicals.



HIGHLY HAZARDOUS PESTICIDES

CUBA: Programme for Agroecological Pest Management (MAP, 1993) and National Plan for Food and Nutrition Security (Plan SAN, 2020)

Cuba began its transition towards agroecological agriculture in the 1990s. What started as an organic process by default rather than conviction was then systematically backed by the government. Decentralized, diversified, small-scale, and knowledge-intensive agroecological systems were established. Today, Cuba has one of the most advanced organic agricultural production systems in the world, with strong supportive policies in place. Around 30 percent of Cuba's agricultural area is managed without the use of agrochemicals. From 1990 to 2005, Cuba's pesticide consumption decreased by 77 percent. Annual imports of pesticides show a constant reduction, from 23,900 tonnes (1986-1990) to 9,900 tonnes (2010-2018). Cuba's agroecological transition is one of the most promising approaches to sustainably feeding people in a nutritious, equitable, environmentally sound, and resilient way.

DENMARK: Action Plans on Pesticides (PAP, 2013-2021) and Organic Action Plans to Promote Organic Production in Denmark (OAP, 2011-2020)

In 2009, the EU approved an ambitious strategy to curb the negative effects of highly hazardous pesticides. While all EU countries have since developed national PAPs, most have stalled in their efforts and impact. The Danish PAPs, however, are examples of successful parliamentary decision making and implementation. The conversion of a flat tax on land into a green tax on pesticide consumption proved to be a winning move in Denmark. Today, the Danish PAPs and OAPs impact 100 percent of Denmark's agricultural area, with 13 percent farmed without pesticides. The pesticide load on the remaining 87 percent of agricultural area has been reduced by 40 percent. Revenue from the pesticide tax has helped fund several organic initiatives. Today, Denmark has the highest market share of organic products in the world.

LEAD IN PAINT

ETHIOPIA: Lead in Paint Control Regulation No. 429 (2018)

The Regulation bans the manufacture, import, export, wholesale, distribution, and sale of any paint with a total lead concentration above 90 ppm. While the Regulation takes inspiration from UNEP's Model Law and Guidance for Regulating Lead, it stands out in its comprehensiveness. It enforces responsible labelling, ensures the disposal of paints, which use lead in an environmentally-sound manner, and obligates owners to examine the concentration of lead in paint before demolishing a building. It also places the responsibility of reducing exposure and preventing harm, particularly against children, on the producers. In 2019, only one year after the enactment of the Regulation, 86 percent of paint producers were estimated to have reduced their lead concentration to 90 ppm or below, adopted the labelling system, and responsibly complied with the provisions provided by the Regulation.

ENVIRONMENTALLY PERSISTENT PHARMACEUTICAL POLLUTANTS

THE NETHERLANDS: Chain Approach to Pharmaceutical Residues in Water Implementation Programme (2018-2022)

In response to the emerging issue of environmentally persistent pharmaceutical pollutants, the Netherlands have developed a Chain Approach Programme to address both aquatic ecology and the production of safe drinking water. The programme encompasses prevention and education in the use, production, distribution, disposal, and wastewater treatment phases. It fosters a network of cooperation, bringing together actors from diverse sectors, including ministries and public authorities, as well as stakeholders from the healthcare, pharmaceutical, and water industries. 15 pilot projects upgrade wastewater treatment plants. The programme was 95 percent successful in achieving its goals that all Dutch pharmacies should collect medicines, and that the municipalities should bear the costs. The Chain Approach Programme also informed the development of the EU's Strategic Approach to Pharmaceuticals in the Environment.

2021 FUTURE POLICY AWARD JURY

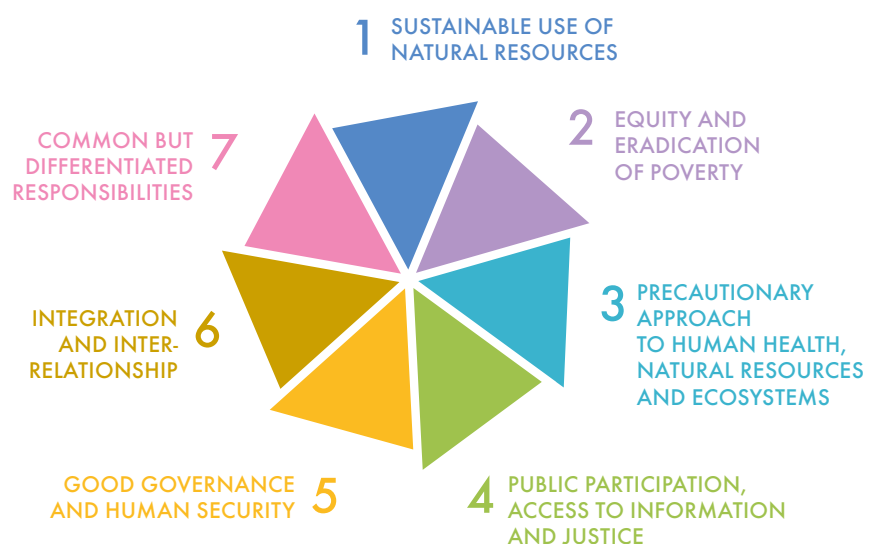
- **Dr. Lilian Busse**, Acting Vice President and Division Head for Environmental Health and the Protection of Ecosystems, German Environment Agency (UBA)
- **Prof. Dr. Marie-Claire Cordonier Segger**, Co-Founder and Senior Director, Center for International Sustainable Development Law (CISDL), Professor of Law at the University of Waterloo, Canada, and Founding Councillor, World Future Council (WFC)
- **Monika Gail MacDevette**, Chief of the Chemicals and Health Branch, Economy Division, UN Environment Programme (UNEP)
- **Dr. Marcos A. Orellana**, UN Special Rapporteur on Toxics and Human Rights
- **Nikhil Seth**, UN Assistant Secretary General, and Executive Director of the United Nations Institute for Training and Research (UNITAR)
- **Prof. Dr. Vandana Shiva**, Founder, Research Foundation for Science, Technology and Ecology, India, and Founding Councillor, World Future Council (WFC)
- **Jakob von Uexkull**, Founder, Right Livelihood Award, and Founder, World Future Council (WFC).

THE FUTURE JUST LAWMAKING FRAMEWORK

The World Future Council's 'Best Policies' are those that meet the Future Just Lawmaking Principles and significantly support fair conditions for future generations. The International Law Association has adopted Seven Principles for Sustainable Development Law. These principles are the result of 10 years of academic work, and are regarded as the 'first blueprint for the emerging field of sustainable development law and policy' for professionals dealing with policymaking and evaluation.

The Seven Principles methodology is applied as a framework for the evaluation of all policies that are competing for the Future Policy Award.

In 2021, the Future Policy Award's seven principles were adapted to this year's topic – the protection from hazardous chemicals – with expert support from the German Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety (BMU), and from Professor Marie-Claire Cordonier Segger from the Center for International Sustainable Development Law (CISDL).



For further information, see:
wfc.world/7principles



LEGEND

- 📍 GOLD AWARDS
- 📍 OTHER AWARDS

PREVIOUS FUTURE POLICY AWARD WINNERS

Between 2009 and 2021, we awarded **60 POLICIES** from **40 COUNTRIES**, plus **5 INTERNATIONAL POLICIES** – covering the thematic areas of nature and environmental protection, human rights, and peace.

More about all winners on our website:

www.worldfuturecouncil.org/future-policy-award

GOLD AWARDS

2009: FOOD SECURITY

- Belo Horizonte’s Food Security Programme, 1993, Brazil

2010: BIODIVERSITY

- Biodiversity Law 1998, Costa Rica

2011: FORESTS

- National Forest Policy, 2004, Rwanda

2012: OCEANS

- Shark Haven Act, 2009 & Protected Areas Network Act, 2003, Palau

2013: DISARMAMENT

- Treaty for the Prohibition of Nuclear Weapons in Latin America and the Caribbean, Treaty of Tlatelolco, 1967

2014: END VIOLENCE AGAINST WOMEN

- The “Duluth Model”, 1981, Minnesota, USA

2015: RIGHTS OF CHILDREN

- Zanzibar’s Children’s Act, 2011, Tanzania

2017: DESERTIFICATION

- Tigray’s Conservation-Based Agricultural Development-Led Industrialization, 1994, Ethiopia

2018: AGROECOCLOGY

- Sikkim’s State Policy on Organic Farming, 2004, and Sikkim Organic Mission, 2010, India

2019: EMPOWERING YOUTH

- YouthConnekt Initiative, 2012, Rwanda
- Youth Field Development Plan, 2014–2020, Estonia

2021: PROTECTION FROM HAZARDOUS CHEMICALS

- Resolution No. 43 on Approval of the Chemical Hazard Classification System and Hazard Information Requirements – Labelling and Safety Data Sheet, (2015), Kyrgyzstan
- Region Stockholm: Phase Out List for Chemicals Hazardous to the Environment and Human Health, 2012–2016, revised for 2017–2021, Sweden

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www.ilo.org

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www.oecd.org

Strategic Approach to International Chemicals Management (SAICM)

www.saicm.org

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The **World Future Council** works to pass on a healthy planet and fair societies to our children and grandchildren. To achieve this, we focus on identifying and spreading effective, future-just policy solutions and promote their implementation worldwide. The Council consists of 50 eminent global change-makers from governments, parliaments, civil societies, academia, the arts and the business world. Jakob von Uexkull, the Founder of the Alternative Nobel Prize, launched the World Future Council in 2007. We are an independent, non-profit organisation under German law and finance our activities from donations.

One of our flagship projects is the annual **Future Policy Award**, the world's first and only award that recognises policies for the benefit of present and future generations on an international level.





Masamichi Kono
Deputy Secretary General
of the Organisation for
Economic Co-operation
and Development (OECD)

The unsound management of chemicals and waste comes with an enormous economic price tag. Urgent regulatory action is needed to save taxpayers' money and safeguard health and critical environmental resources, especially as the chemical industry is expected to grow. We need ambitious and impactful policies, such as the ones honoured with the Future Policy Award 2021, to stop the adverse impact on health and the environment and to move towards sustainable chemistry.



Prof. Dr. Vandana Shiva,
Founder, Research Foundation
for Science, Technology and
Ecology, India, and Founding
Councillor, World Future Council

The toxification of the planet caused by the release of hundreds of thousands of chemicals into our environment poses very serious health risks, especially to children and women. Effective and innovative laws and policies for the sound management of chemicals and waste are indispensable to secure a toxic-free environment for all. I am very honoured to have been part of the Future Policy Award 2021 jury. This year's Future Policy Award recognises highly impactful laws and policies that can help us overcome the global chemicals and waste crisis. Policymakers across the globe should learn from these best policies and their successful implementation.



Alexandra Wandel
Executive Director
of the World Future
Council (WFC)

Every day our rights are violated by the exposure to toxic chemicals. Especially children are disproportionately affected. We are proud to present impactful policies in this field. For the benefit of current and future generations, it is absolutely critical that policymakers scale up the protection from hazardous chemicals.



Nikhil Seth
UN Assistant Secretary General,
and Executive Director of the
United Nations Institute for Training
and Research (UNITAR)

Hazardous chemicals are a complex challenge. Their management will determine the attainment of the 2030 Agenda. Chemical safety and the management of toxic chemicals touches many, if not all, of the Sustainable Development Goals. It is clearly linked to the goals as poverty, food, health, gender equality, cities, land, and pollution related targets. I truly applaud those who have been honoured with the Future Policy Award 2021 for translating this critical issue into concrete action and improved the lives of many.