

An EU Strategy is urgently needed for a Non-Toxic Environment

This paper is endorsed by the following agencies:

Danish Environmental Protection Agency

Environment Agency Austria

Estonian Environment Agency

Finnish Environment Institute

German Environment Agency

Italian Institute for Environmental Protection and Research

Portuguese Environment Agency

Slovak Environment Agency

Swedish Environmental Protection Agency



A working group of the European Network of the Heads of Environment Protection Agencies (EPAs, <http://epanet.pbe.eea.europa.eu/>) was formed in February 2019 to write this paper. While it reflects the inputs of all participants of the group, it is only endorsed by those agencies mentioned on the front page.

An EU Strategy is urgently needed for a Non-Toxic Environment

Members of the European Network of Heads of Environmental Protection Agencies (EPA Network) strongly support the EU Council conclusions from June 2019ⁱ calling for an ambitious chemicals policy as well as the Commission President's ambitions for a zero pollution environmentⁱⁱ. The Council has urged the incoming EU Commission to immediately develop a Union strategy for a non-toxic environment, one that encourages innovation and the development of sustainable substitutes, including non-chemical solutions, and harmonises EU measures on chemicals. The recent Commission conference on "EU chemicals policy 2030"^{iii,iv} offered a platform for stakeholder discussion on future developments, objectives and actions to improve protection of human health and the environment in line with the sustainable development agenda.

Detailed knowledge on the impacts of chemicals on humans and the environment, including gaps in knowledge, is well described in scientific literature as well as in recent Commission studies and the Fitness Check of chemicals legislation^v. The 7th Environmental Action Programme (EAP) and its complementary study for a non-toxic environment strategy published in 2017^{vi} as well as the EU Council conclusions calling for an ambitious chemicals policy provide the community with a firm foundation for developing a strategy for a non-toxic environment. Given the short remaining timeframe of the 7th EAP the EPA Network recommends elaborating a strategy as soon as possible. Members of the EPA Network have identified several areas falling under their specific expertise and responsibilities that should urgently be addressed. Examples of areas for improvement include strengthening risk governance mechanisms to enable faster actions to be taken on identification of harm or emerging issues. There is also a need to tackle the remaining gaps in availability, quality and communication of data, as well as addressing weaknesses and inconsistencies in legislation. There is also a need to address specific chemicals and groups of concern while avoiding regrettable substitution and to ensure the appropriate handling of these chemicals in Europe (and worldwide). This will also help in achieving a circular economy.

A joint strategy for proactive and up-stream chemicals management would help to resolve many of the down-stream environmental issues that fall under the responsibilities of the EPAs, such as air, water and soil pollution and waste management. Upholding the principles on which the EU environment policy rests, such as principles of precaution, prevention and rectifying pollution at its source as well as the polluter-pays principle would benefit from a comprehensive overarching approach to chemicals management to ensure the protection of human health and the environment from adverse effects of chemicals. Furthermore, an EU non-toxic environment strategy would channel support for international commitments, such as the Strategic Approach to International Chemicals Management (SAICM)^{vii} and the Sustainable Development Goals (SDGs)^{viii}, by setting clear targets and measures to achieve them.

European EPAs have long-standing practical experience in implementing Community environmental policy. Many of the national environment agencies have regulatory powers and a significant role in the environmental risk assessment and management of chemicals. Given their unique position, members of the EPA Network urge the Commission to swiftly develop a strategy for a non-toxic environment according to the 7th EAP^{ix}. On the basis of our specific expertise the Network has reflected on the Council Conclusions and formulated important areas for action to expedite the strategy development. These areas are, however not exhaustive. Action is needed in the short, medium and long term and, as a consequence, it might be difficult to rank the importance as several areas require complementary actions to address the challenges.

Five important areas for action to start drafting a European strategy on chemicals:

- **Better address emerging chemical issues: Improve the knowledge base, information accessibility and risk management of chemicals**

Besides ensuring a sound risk assessment and management of chemicals, the transparent availability of data on the hazards, uses and exposures of chemicals allows early warning of emerging risks. Although information on chemicals has increased and substantial steps forward have been made on making this data available, it is often not transparently and easily accessible. For many chemicals, certain data is lacking or of low quality. Some topics need particular attention, such as endocrine disrupting chemicals, chemicals with a high degree of persistence, substances that promote antimicrobial resistances, substances composed of a number of different constituents, polymers, organometals, or nano materials. Also certain (eco)toxicological aspects (e.g. endocrine disruption, terrestrial toxicity, neurotoxicity or immunotoxicity) are currently insufficiently considered, which hamper a better protection of vulnerable groups such as children or sentinel species. To better protect consumers, information on the constituent chemicals in products, articles and waste and their use volumes should be made available. Currently, some achievements are made with such databases (for example by ECHA). It is important that information is provided in a transparent and public available manner, which could for example be achieved via shared data initiatives.

Transparent early communication and exchange between data providers, regulators and policy makers on the volumes, use, hazard, exposure and impact of chemicals should provide a foundation for a chemicals early warning system. Such a system could identify emerging and escalating signals in sensitive species and in humans, to enable and accelerate a policy response. Following identification of issues, mechanisms could be developed that trigger any appropriate risk management of chemical issues (for example for chemicals, chemical groups or issues with a chemical component such as antimicrobial resistance) across policy areas. Some existing data exchange systems and initiatives could inform this work^{x, xi, xii, xiii, xiv, xv, xvi}. One aspect to consider further is how to ensure the appropriate level of validation of any data used to inform policy development.

- **Accelerate risk assessment & management and avoid regrettable substitution by grouping chemicals**

The grouping of chemicals for assessment and management helps avoid regrettable substitutions with other harmful chemicals, which is especially important for vPvB/PBT substances or chemicals of equivalent concern which may include for example endocrine disrupting chemicals. The European Chemicals Agency ECHA already uses grouping approaches to speed up risk management and support informed substitution. When chemical substances are prohibited, the alternatives should prior to their use undergo rigorous analyses of their toxicological and chemical-physical characteristics and its impacts on human health and the environment, to ensure sound substitutions. Furthermore, alternative non-chemical technical solutions should be promoted.

- **Improve coherence and interlinkages in EU chemical and environmental legislation to achieve higher protection and efficiency**

Human populations and the environment are impacted by the overall burden of chemicals throughout the life-cycle of production, use, recycling and disposal, and from different sources managed under different legislation (e.g. REACH, biocides, pesticides, pharmaceuticals, or food contact materials). Therefore, in order to be effective, chemical and product legislation should be harmonised as far as possible with respect to e.g. methodologies for risk assessment and management, criteria and protection levels to enable consideration of the entire life cycle of chemicals. Legislation should also

take the precautionary principle into consideration, and strengthen enforcement to eliminate identified substances of concern from production processes, products, and articles. Furthermore, there is a need to install feed-back mechanisms between environmental legislation and monitoring (including biomonitoring) and chemicals legislation.^{xvi} This should allow signals detected “downstream” in the environment or human population, to better inform coordinated risk management actions across “upstream” chemicals legislation.

When developing the strategy we would therefore recommend developing goals, targets and indicators of progress together, which relate to environmental or human health impacts. A new strategy would benefit from simple and easy to communicate indicators, based on quantifiable metrics. A process to measure progress toward targets should be agreed at the outset, with a clear definition of who has the responsibility to generate the data and how it will be collected and used.

- **Step up the risk assessment and management of multiple exposures and combined effects of chemicals**

Chemicals may act jointly to produce toxic effects, though each of the mixture components alone would not cause measurable effects. However, the dominating “chemical by chemical approach” in current EU legislation does not consider the combined exposures from multiple sources or the mixture effects of multiple chemicals. The methodology for an assessment of mixtures is available and chemicals occurring together in intentionally prepared technical formulations are already assessed under some legislations. However, an assessment and management of “real life” exposures to multiple chemicals in the environment or humans are widely neglected. There is an urgent need for clear mandates in legislation and guidelines across EU legislation to coherently address multiple exposures and combined effects. Some member states are actively working on proposals to implement the available specific or generic assessment approaches in legislations and guidelines that can provide a basis for further action.

- **Promote the transition towards a sustainable use of chemicals and implement a non-toxic circular economy**

Supported by an EU strategy for a non-toxic environment, member states and EU authorities can engage in promoting a more sustainable use of chemicals. This could include building links between science and policy; raising knowledge on concepts like green chemistry and safe-and-circular-by-design in industrial practices, as well as in professional and academic training. The development and use of safer and sustainable chemicals and technical solutions can be encouraged in the industrial sector, as well as initiatives to promote the production, up-take and use of long-living products, being resource efficient and leading to an overall reduction of waste in daily life. A strengthening of international co-operation with capacity building efforts in non-EU countries is needed to safeguard against imported pollution. The entire life cycle of chemicals, including the use, waste and recycling stages, should be considered in the assessment and management of chemicals as well as the promotion of technical non-chemical solutions. This is a great opportunity for Europe to lead innovation in safer chemicals and sustainable solutions.

Next steps

Despite their varying environmental remits and responsibilities, members of the EPA Network agree on the need for a more comprehensive, preventive and sustainable management and control of chemicals. An overarching chemicals policy towards a non-toxic environment is a great opportunity for the European Union. The Network encourages the incoming Commission to take up these proposed areas in the non-toxic environment chemicals strategy. The remaining timeframe for elaborating a strategy under the 7th EAP is short. Members of the Network would welcome the opportunity to further elaborate these actions conceivably in a meeting with the EU Commission and proposes a workshop in early 2020 to elaborate details. The EPA Network would like to contribute to the process over the long-term by providing feedback with regard to implementation and enforcement, especially by providing examples of best practices and solutions.

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- i <http://data.consilium.europa.eu/doc/document/ST-10713-2019-INIT/en/pdf>
- ii EU Commission President Ursula von der Leyen's "A Union that strives for more - Political guidelines for the next European Commission 2019-2024". See page 7: "For the health of our citizens, our children and grandchildren, **Europe needs to move towards a zero-pollution ambition**. I will put forward a cross-cutting strategy to protect citizens' health from environmental degradation and pollution, addressing air and water quality, hazardous chemicals, industrial emissions, pesticides and endocrine disrupters".
https://ec.europa.eu/commission/sites/beta-political/files/political-guidelines-next-commission_en.pdf
- iii <https://euchemicalspolicy2030.teamwork.fr/docs/report.pdf>
- iv <https://euchemicalspolicy2030.teamwork.fr/en/home>
- v https://ec.europa.eu/growth/sectors/chemicals/ec-support_en
- vi [EC 2017](#)
- vii <http://www.saicm.org/> - For example, the *Strategic Approach and sound management of chemicals and waste beyond 2020*
- viii <https://sustainabledevelopment.un.org/?menu=1300>
- ix <https://ec.europa.eu/environment/action-programme/>
- x [NORMAN network](#) data exchange platform on emerging substances.
- xi RIVM/ECHA's work to create an EU New and Emerging Risk Chemical (NERC) framework to capture early signals of chemical concern
- xii [EFSAs Emerging Risk Exchange Network \(EREN\)](#)
- xiii The Norwegian, Swedish, Finnish and Danish [SPIN database on chemicals in products](#)
- xiv Human biomonitoring data, e.g. <https://www.hbm4eu.eu/about-hbm4eu/>
- xv [Information Platform on Chemicals Monitoring \(IPCHEM\)](#)
- xvi Nordic Screening of Emerging Contaminants <https://nordicscreening.org/>
- xvii Linkages between IED and REACH should also be improved. Data on chemical use in REACH should be utilized when determining emission reduction measures under the Industrial Emissions Directive (Findings from HAZBREF project, www.syke.fi/hazbref)