



ZeroPM

Zero pollution of Persistent, Mobile substances

Grant Agreement No. 101036756

Deliverable D3.5 - Policy brief



September 2022

Authors: Lise Oulès (Milieu), Michael Neumann, Ivo Schliebner, Tobias Mohr (UBA)

Reviewers: Sarah Hale, Hans Peter Arp (NGI)

About the Horizon 2020 project: ZeroPM – Zero Pollution of Persistent, Mobile substances

ZeroPM, which stands for Zero pollution of Persistent, Mobile substances, is a 5 year long, European research project funded under the Horizon 2020 research and innovation program. ZeroPM will interlink and synergize three strategies to protect the environment and human health from persistent and mobile substances: **Prevent**, **Prioritize** and **Remove**. To do this, ZeroPM will develop an evidence-based multilevel framework. The framework will guide policy, technological and market incentives to minimize use, emissions and pollution of persistent and mobile substances.

The work package ‘Policy analysis, development, and assessment’ (Work Package 3) aims to contribute to the strengthening and enforcement of the EU chemicals policy framework in order to more effectively regulate persistent, mobile and toxic (PMT) and very persistent and very mobile (vPvM) substances as well as incentivise and create an enabling environment for the uptake of alternative, sustainable chemicals.

Policy framework for persistent and mobile substances

Emissions of PMT/vPvM substances to air, water and soil come from a wide range of sources and pathways including:

- ▼ Industrial plants discharging chemicals into the air, soil and surface and groundwater.
- ▼ Waste management infrastructure including landfills releasing chemicals into soils and water, incineration plants discharging chemicals into the air which then settle on land and in water, wastewater treatment plants discharging chemicals that are not removed during treatment and which then contaminate drinking water supplies.

- ▼ Sewage sludge produced by wastewater treatment plants that are contaminated themselves and then applied to agricultural fields resulting in contamination of soil and subsequently to crops grown on the soil. Contamination from the application of pesticides in agriculture areas.
- ▼ Diffuse pollution from use, disposal and recycling of products.

The relevant legal and policy framework to address PMT/vPvM substances spans a wide range of policies and legislation, including (1) those aiming to reduce pollution at the source, by banning or restricting the manufacturing, placing on the market and use of hazardous substances (chemicals and product legislation), or requiring industrial facilities or other sectoral activities to take preventive measures against pollution (industrial emissions legislation), (2) those monitoring and controlling concentrations of hazardous substances in environmental compartments and food (water, air, food safety legislation), (3) those establishing rules for the collection, treatment, reuse, recycling, decontamination and disposal of certain types of waste, or for water reuse (water and waste legislation) and (4) those establishing the polluter pays principle to prevent and remedy environmental damage. The relevant policy areas for addressing PMT/vPvM substances are summarised in Figure 1.

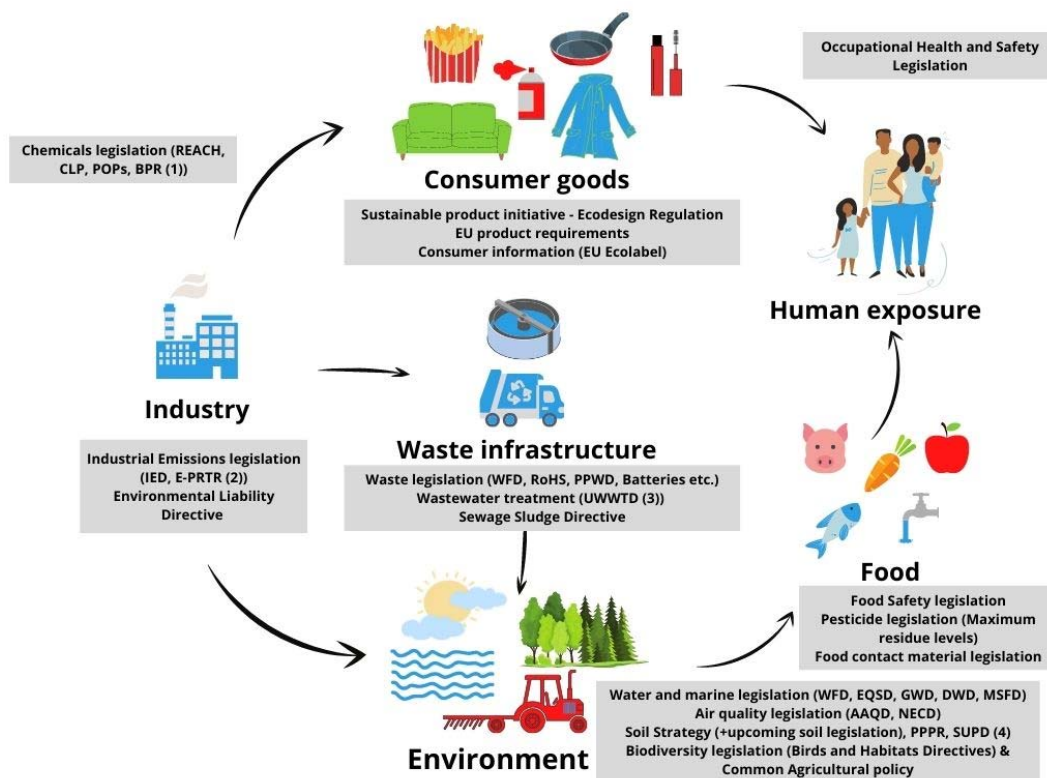


Figure 1 Relevant policy areas to address PMT/vPvM substances. Figure based on EEA (2019) and adapted for ZeroPM¹.

¹ (1) Registration, Evaluation, Authorisation, and Restriction of Chemicals (REACH) Regulation; Classification, Labelling, and Packaging (CLP) Regulation; Persistent Organic Pollutants (POPs) Regulation; Biocidal Products Regulation (BPR);



The European Green Deal and persistent and mobile substances

The European Green Deal, the EU's new growth strategy published in 2019, aims to respond to climate change and environmental degradation threats by achieving a resource-efficient and climate neutral economy by 2050. The objectives of the Green Deal are implemented through a number of Strategies, among which, the Zero Pollution Action Plan sets the ambition to achieve zero pollution by 2050, when 'air, water and soil pollution is reduced to levels no longer considered harmful to health and natural ecosystems' (COM(2021) 400 final, p.3). The Chemicals Strategy for Sustainability for a Toxic-Free Environment contributes to the objectives of the European Green Deal and the Zero Pollution Action Plan by addressing chemical pollution to protect health and the environment and supporting innovation for safe and sustainable chemicals. Chemical pollution is also addressed in several other Green Deal Strategies as a type of pollution to prevent. For example, the Farm-to Fork Strategy, the Biodiversity Strategy and the Soil Strategy all contain specific targets such as reducing pesticide use, specifically reducing the use of the most hazardous pesticides by 50% by 2030. Several Strategies also address hazardous chemicals in products such as the Sustainable Textile Strategy and the Circular Economy Action Plan, which plan for the development of a sustainable product policy framework.

The Chemicals Strategy for Sustainability is organised around two main objectives, shifting production towards safe and sustainable by design chemicals and addressing environmental and health concerns of chemicals, including by strengthening the legal framework to achieve zero chemical pollution in the environment. The objectives of the Strategy are based on the Toxic-Free Hierarchy, modelled on the Zero-Pollution Hierarchy, which focuses on preventing pollution at the source as a priority, and only in cases when this is not fully possible, minimising and controlling pollution and finally, as a last resort, remediating environmental damage. The Toxic-Free Hierarchy prioritises the development of safe and sustainable chemicals, clean production and recycling processes and the phase out of substances of concern for non-essential uses.

In its action plan, the Chemicals Strategy for Sustainability directly addresses PMT/vPvM substances by proposing to introduce a new hazard class for these substances and mixtures and corresponding scientific criteria to identify them in the EU Regulation on classification, labelling and packaging of substances and mixtures (CLP). The [draft delegated act](#) introducing the hazard class and criteria was published on the 20th of September 2022 and is open for feedback until the 18th of October 2022.

The criteria laid down in the draft delegated act state that the mobility criterion for a PMT substance shall be considered fulfilled when the log K_{oc} is less than 3 and for an ionisable substance, the mobility criterion shall be considered fulfilled when the lowest log K_{oc} value for pH between 4 and 9 is less than 3. The draft delegated act states the

(2) Industrial Emissions Directive (IED); European Pollutant Release and Transfer Register (E-PRTR);

(3) Waste Framework Directive (WFD); Restriction of Hazardous Substances (RoHS) Directive; Packaging and Packaging Waste Directive (PPWD); Urban Wastewater Treatment Directive (UWWTD);

(4) Water Framework Directive (WFD); Environment Quality Standards Directive (EQSD); Groundwater Directive (GWD); Drinking Water Directive (DWD); Marine Strategy Framework Directive (MSFD); Ambient Air Quality Directive (AAQD); National Emission Ceilings Directive (NECD); Plant Protection Product Regulation (PPPR); Sustainable Use of Pesticides Directive (SUPD).



very mobile criterion for a vPvM substance shall be considered fulfilled when the log K_{oc} is less than 2 and for an ionisable substance, the mobility criterion shall be considered fulfilled when the lowest log K_{oc} value for pH between 4 and 9 is less than 2. The criteria for persistent and very persistent in the draft delegated act are as for REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) Annex XIII. The criterion for toxicity are as for REACH Annex XIII with the addition of one situation where the substance criteria for classification as endocrine disruptor (Category 1) for humans or the environment according to the draft delegated act.

According to the Chemicals Strategy for Sustainability the introduction of the hazard classes and criteria in the CLP Regulation will be complemented by the amendment of Article 57 of the REACH Regulation to add these substances to the list of substances of very high concern (SVHC). The revision of the REACH Regulation is expected in 2023.

The Chemicals Strategy for Sustainability also proposes to address per- and polyfluorinated substances (PFAS) as a group for restriction under REACH and under other relevant legislation including water, sustainable products, food, industrial emissions, and waste. Many substances within the PFAS group meet, or can be expected to meet, the criteria for PMT/vPvM substances, particularly PFAS with 8 perfluorinated carbons or fewer. Two restrictions under REACH are already being prepared – one regarding PFAS in firefighting foams and the other, which is broader, regarding the manufacture, placing on the market and uses of PFAS, for which the restriction dossier is expected early 2023. It is also anticipated that PFAS will be addressed as a group through the revisions of the Environmental Quality Standards Directive, the Groundwater Directive, the Industrial Emissions Directive and the Food Contaminants Regulation which will take place in 2022, as well as the revision of the Sewage Sludge Directive planned for 2023.

Following the introduction of the PMT/vPvM criteria, the phase out and substitution of PMT/vPvM substances will be promoted through the authorisation and restriction processes under REACH and may also be promoted via the generic approach to risk management. The generic approach to risk management implies that risk management measures are automatically triggered based on the hazardous properties of a substance and generic exposure considerations. This approach currently only applies to carcinogens, mutagens, and substances toxic for reproduction (CMRs) and consumer uses. The Chemicals Strategy for Sustainability proposes to extend the generic approach to persistent, bioaccumulative and toxic (PBT) and very persistent, very bioaccumulative (vPvB) substances and also to professional uses. An impact assessment should also determine whether and how to extend the generic approach to risk management to other chemicals. According to the German Environment Agency (Umweltbundesamt, UBA), the extension of the generic approach to risk management to PMT/vPvM substances is justified by the persistency of these substances, which causes ‘concern for an irreversible and increasing presence in the environment’ (UBA, 2022).

The Chemicals Strategy for Sustainability states that the application of the generic approach will be complemented by a consistent approach to derogations or exceptions



across legislation, through the definition of criteria for essential uses, which will ensure that ‘*most harmful chemicals*’ (which should at least cover SVHCs under REACH) are only allowed if ‘*their use is necessary for health, safety or is critical for the functioning of society and if there are no alternatives that are acceptable from the standpoint of environment and health*’ (COM(2020) 667 final, p.10).

Next steps in ZeroPM

ZeroPM will follow these initiatives closely to identify potential gaps and opportunities to support policy changes to more effectively tackle persistent and mobile substances. In its next steps, WP3 will carry out a more detailed analysis of opportunities and gaps in the existing policy and legal framework for preventing PMT/vPvM substances from entering the environment. ZeroPM will then develop policy options for preventing emissions from PMT/vPvM substances and explore their effectiveness, feasibility and impacts on different actors.

References

Communication from the European Commission to the European Parliament, the Council, the European Economic and Social Committee, and the Committee of the Regions. The European Green Deal. COM/2019/640 final. Available from: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2019%3A640%3AFIN> (accessed 13.06.2022).

Communication from the European Commission to the European Parliament, the Council, the European Economic and Social Committee, and the Committee of the Regions. Chemicals Strategy for Sustainability Towards a Toxic-Free Environment. COM(2020) 667 final. Available from: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2020%3A667%3AFIN> (accessed 13.06.2022).

Communication from the European Commission to the European Parliament, the Council, the European Economic and Social Committee, and the Committee of the Regions. Pathway to a Healthy Planet for All EU Action Plan: ‘Towards Zero Pollution for Air, Water and Soil’. COM(2021)400 final. Available from: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2021:400:FIN> (accessed 13.06.2022).

EEA (2019) Emerging chemical risks in Europe — ‘PFAS’. Briefing no. 12/2019. Available from: <https://www.eea.europa.eu/publications/emerging-chemical-risks-in-europe> (accessed 23.05.2022).

UBA (2022) The Revision of the REACH Authorisation and Restriction System. Recommendations by the German Environment Agency. Scientific Opinion Paper no. 26. Available from: <https://www.umweltbundesamt.de/publikationen/the-revision-of-the-reach-authorisation-restriction> (accessed 27.09.22).





H2020 project Zero pollution of Persistent, Mobile substances
EU Grant Agreement No. 101036756