

Revision of Annexes IV and V to the EU Regulation on Persistent Organic Pollutants

This briefing is one in a series of 'implementation appraisals', produced by the European Parliamentary Research Service (EPRS), on the operation of existing EU legislation in practice. Each briefing focuses on a specific EU law which is likely to be amended or reviewed, as foreseen in the European Commission's annual work programme. 'Implementation appraisals' aim at providing a succinct overview of publicly available material on the implementation, application and effectiveness to date of specific EU law, drawing on input from EU institutions and bodies, as well as external organisations. They are provided by the Ex-Post Evaluation Unit of EPRS, to assist parliamentary committees in their consideration of new European Commission proposals, once tabled.

SUMMARY

At the end of October 2021, the European Commission submitted a [proposal](#) for the revision of [Regulation \(EU\) 2019/1021](#) on persistent organic pollutants (POPs), and in particular its Annexes IV and V, which determine how waste containing POPs must be treated, i.e. whether waste could be recycled or must be destroyed or irreversibly transformed. The proposal updates the concentration limits of certain (groups of) POP substances already regulated in Annexes IV and V of the regulation, and also establishes concentration limits for substances that have not yet been regulated by these annexes. The proposal thus ensures, on the one hand, implementation of the EU's commitments at international level (alignment of the EU legislation with developments at international level in the field of POPs, e.g. under the [Stockholm Convention on POPs](#)), and, on the other, alignment of the EU legislation with scientific and technical progress. It also aims to achieve an optimal balance between the ambitions of the [European Green Deal](#) – notably, to ensure that human health and the environment are protected from the adverse effects caused by POPs, while also achieving toxic-free material cycles, more recycling and circularity, and reduced greenhouse gas emissions.

The recast of the regulation in 2019 envisaged that Annexes IV and V would be revised following the ordinary legislative procedure. This briefing presents the findings of publicly accessible sources on the implementation of the EU legislation in terms of its scope and subject to revision.

Background

Persistent organic pollutants (POPs) are toxic organic compounds that, because of their slow breakdown, persist in the environment for long periods and accumulate in the food chain and living organisms. POPs include pesticides such as dichlorodiphenyltrichloroethane (DDT), industrial chemicals such as polychlorinated biphenyls (PCBs) and unintentional by-products of industrial processes such as dioxins and furans. As a result of their persistence, POPs can be transported by water, air or migratory species across borders and carried far away from where they were first produced and/or used. POPs have thus been found in human bodies (including in breast milk¹) and

humans' immediate environment, but also as far as the Arctic, the Alps and the Baltic Sea, which are examples of European sinks of POPs.

Once POPs are released, their presence in humans and the environment is difficult to reduce. Consequently, POPs can have long-lasting, significant and adverse impacts on the environment and societies and can be transferred from one generation to the next, even if they are no longer produced and/or used. One of the risks POPs pose is through their continued presence in waste streams – such as construction and packaging plastics, waste electrical and electronic equipment (WEEE), end-of-life vehicles (ELV) and textiles – used in the recycling and production of new products. This situation presents an obstacle to the EU's transition from a linear to a circular economic model, while also generating significant costs for the EU economies.²

International legal framework

Managing the risks inherent to POPs requires that countries cooperate with each other. Cooperation is therefore at the core of the two international legally binding acts regulating POPs, to which the EU is also a party: the [Aarhus Protocol](#) to the Convention on long-range transboundary air pollution (CLRTAP)³ (the Aarhus Protocol, adopted in 1998 and in force since 2003), and the [Stockholm Convention](#) on persistent organic pollutants⁴ (the Stockholm Convention, adopted in 2001 and in force since 2004). The Stockholm Convention (adopted under the auspices of the UN Environment Programme, UNEP) built on the Aarhus Protocol (adopted under the auspices of the UN Economic Commission for Europe, UNECE) and thus [raised the profile of POPs to the global level](#).

The abovementioned legal acts drew up lists of substances identified as POPs and established control measures to address them. They furthermore introduced: a ban or severe restriction of the production and use of intentionally produced POPs; restrictions on the export and import of intentionally produced POPs (under the Stockholm Convention); and provisions on the environmentally sound disposal of waste containing POPs. The parties to these acts may submit proposals for new substances to be included on their lists.⁵

Other international agreements, such as the 1989 [Basel Convention](#) on the control of transboundary movements of hazardous wastes and their disposal, are also related to POPs, particularly as regards their presence in waste. In particular, the EU cooperates with its Member States and all other parties to the Basel Convention in the development and review of guidelines for the environmentally sound management of POPs waste.

EU legal framework: Regulations 850/2004 and 2019/1021

Given that the EU is a party to both the Aarhus Protocol and the Stockholm Convention, it is obliged to implement their requirements into its own legal order. This was first done in 2004 with the adoption of [Regulation \(EC\) 850/2004](#) on persistent organic pollutants by the European Parliament and the Council of the EU. The regulation laid down provisions on the production, placing on the market and use of POPs, the management of stockpiles and waste, as well as measures to reduce their unintentional releases. Since their adoption, the regulation and its annexes have been amended several times to reflect the developments under the Aarhus Protocol and the Stockholm Convention, resulting, among others, from the addition of new substances to their annexes and to scientific and technical progress.

In 2018, the Commission launched a recast of the regulation to address, among others, the need for i) making certain alignments stemming from the Lisbon revision of the EU Treaties,⁶ [Regulation \(EC\) 1907/2006](#) (the REACH Regulation) and the Waste Framework [Directive 2008/98/EC](#); ii) securing the involvement of the European Chemicals Agency (ECHA) in certain tasks necessary for the implementation of the regulation; iii) clarifying existing definitions and adding new ones. In 2019, Parliament and Council adopted the recast [Regulation \(EU\) 2019/1021](#) on persistent organic pollution (the recast POPs Regulation in force), which repealed Regulation (EC) 850/2004 (the repealed POPs Regulation). The recast POPs Regulation has been in force since 15 July 2019. Its objectives, scope and main procedures are presented below.

The regulation's main objective is to protect human health and the environment by eliminating or restricting the production and use of POPs as defined by the Aarhus Protocol and the Stockholm Convention. More specifically, the regulation, which is based on the precautionary principle, seeks to minimise, or eliminate where possible, the releases of POPs, and to regulate wastes containing or contaminated by such chemicals. It contains provisions on the control of manufacture, placing on the market and use of POPs. In particular, Annex I lists (groups of) substances whose manufacture, placing on the market and use (on their own, in mixtures or in articles) is prohibited. Annex II lists substances whose manufacture, placing on the market and use is restricted.⁷ Annex III lists unintentionally produced POPs subject to release reduction provisions. The international obligations of the EU under the Stockholm Convention require that, each time new POPs are included on the lists of its Annexes A, B and C, Annexes I, II and III to the recast POPs Regulation in force are amended accordingly; currently, this is done by the Commission by means of a delegated act. Furthermore, the EU Member States are obliged to: keep inventories of substances listed in Annex III that are released into the air, water and land; communicate their action plans on measures to identify, characterise and minimise the release of Annex III substances, including the use of substitute or modified substances; and prioritise alternative processes avoiding the formation and release of POPs when constructing or modifying facilities. The regulation also lays down provisions on planning, monitoring and reporting with regard to POPs.

The regulation also contains provisions for the environmentally sound management of waste, requiring that the presence of POPs in new products manufactured with recycled materials be avoided or minimised. In particular, Article 7(1) stipulates that producers and holders of waste must undertake all reasonable efforts to avoid, where feasible, contamination of this waste with the (groups of) chemicals listed in its Annex IV, which sets thresholds for POPs in waste. If these thresholds are exceeded, the waste cannot be recycled but must be treated in a way that the POPs content is irreversibly transformed or destroyed. Annex V concerns waste management in particular. Its Part 1 contains a list of disposal and recovery operations permitted for waste that meets or exceeds the limit value set in Annex IV. It also lists waste types, which may be exempted from being treated according to Part 1, defines maximum concentration limits of the POPs in waste (Annex V limits) up to which the exception may apply, and defines, in its Part 2, the allowable alternative waste disposal options.

Scope and procedure of the revision

The proposal updates the concentration limits of several (groups of) POP substances already regulated in Annexes IV and V, and also establishes concentration limits for substances that have not yet been regulated by these annexes. In particular, the legislative proposal on a revised POPs Regulation (recast) seeks to align it with the Stockholm Convention and with Annex I to the recast POPs Regulation in force, ensuring that it reflects both international standards and takes account of scientific and technical progress. Under its [work programme for 2021](#), the Commission was due to submit the legislative proposal in the second quarter of the year. The [proposal](#) for a revision was submitted in October 2021 and was accompanied by an [ex-ante impact assessment](#) (IA) giving details on the policy options relevant to each (group of) POPs substances concerned.

Table 1 gives information on the uses of the chemicals concerned, where are they found (i.e. type of waste or articles before becoming waste) and how they are affected by the revision (update of existing values or new additions). The IA to the proposal for a revision notes that knowing the products in which POPs were used helps to understand in what waste they will be found. Most uses have now been banned, but there are exceptions; for example, the use of decaBDE, which is part of the polybrominated diphenyl ethers (PBDEs), is permitted in the manufacture of certain aircraft components and their spare parts and in the manufacture of certain spare parts for motor vehicles.

Table 1 – Overview of substances concerned by the revision of the POPs Regulation (recast)

(Group of) substances	Uses (most are historic ones)	Where is it found (type of waste or articles before becoming waste)?	Status
Polybrominated diphenyl ethers (PBDEs): Tetra-, Penta-, Hexa-, Hepta- and Deca-bromodiphenyl ether	Flame retardants. Used often in conjunction with antimony trioxide to provide fire-resistance to plastics, textiles and other materials.	In certain plastics and textiles contained in electrical and electronic equipment (EEE) and in vehicles. Also in some plastics used in construction and in textiles such as those in upholstered furniture, tarpaulins, etc.	Existing values updated
Hexabromocyclododecane (HBCDD)	Flame retardant. Used to provide fire resistance in expanded and extruded polystyrene insulation panels. Limited use in other plastics (high-impact polystyrene) and textiles.	Major use in thermal insulation panels used in construction. Also found in some EEE and in back-coated textiles.	Existing values updated
Polychlorinated dibenzo-p--dioxins and dibenzofurans (PCDD/Fs)	These substances have no use as such and are not produced or added to materials intentionally. They are produced unintentionally in combustion processes.	Present as impurities in ashes from municipal waste incinerators and in other ashes. Also in other industrial waste.	Existing values updated
Dioxin-like PCBs	Similar to dioxins, they are produced unintentionally in combustion processes. Also present in some PCB oils historically used as dielectric fluid or plasticiser.	Present as an impurity in some ashes. Potentially present in oils from some remaining electrical transformers and capacitors.	Existing values updated
Short-chain chlorinated paraffins (SCCPs)	Flame retardant. Used in some rubber and plastic materials.	Used in industrial and mining rubber conveyor belts, hoses, cables, seals. Soft PVC plastic articles. In some construction sealants and paints.	Existing values updated
Perfluorooctanoic acid (PFOA) its salts and PFOA-related compounds	Used to make fluorinated polymers such as PTFE (or Teflon®). Provides water and oil repellency (water-proofing and anti-stain protection). Protective and lubricating functions, modifier of surface tension.	Present in some fire-fighting foams, in water-proof textiles (e.g. outdoor jackets), upholstered furniture and carpets. Also found in electronics (semiconductors, coatings, seals, printed circuit boards).	Newly added
Perfluorohexane sulfonic acid (PFHxS), its salts and PFHxS related compounds	Similar to PFOA, except not used in the manufacture of fluoropolymers.	Similar to PFOA.	Newly added (may become part of the revision in 2022) ⁸
Pentachlorophenol (PCP),	Pesticide and biocide. Used as a treatment to prevent wood and textiles from rotting, especially	Wood used in outdoor construction – poles, fences,	Newly added

(Group of) substances	Uses (most are historic ones)	Where is it found (type of waste or articles before becoming waste)?	Status
its salts and esters	outdoors. Production and import in the EU ceased in 2002	awnings. Textiles – tents, tarpaulins.	
Dicofol	Pesticide. Used in agriculture, mostly in Spain until 2010.	No evidence of stockpiles. Probably none or very limited presence in the EU.	Newly added

Source: EPRS based on Commission [SWD\(2021\) 300 final](#) (IA to the proposal for revision)

In contrast to the 'delegated acts' procedure suggested by the Commission (in the frame of its recast proposal) for the revision of all annexes to the regulation, the co-legislators decided that Annexes IV and V in particular would be amended through the ordinary legislative procedure.⁹ This procedure will be applied whenever alignments of Annexes IV and V with the Aarhus Protocol and the Stockholm Convention but also to scientific and technical progress are required. Even though the Commission accepted the version of the Recast Regulation agreed by the co-legislators – including the changes related to its Annex IV and V and the modalities of their revision – it issued a statement voicing its concern as to whether the ordinary legislative procedure was the appropriate one to follow in this particular policy field.¹⁰

European Commission

Since the Commission did not perform an ex-post evaluation of the implementation of the recast POPs Regulation in force, the current briefing presents the findings of other relevant sources highlighting various aspects of the implementation of the regulation and in particular of its Annexes IV and V.

Studies informing the revisions of the POPs regulations

In [2005](#),¹¹ [2011](#)¹² and [2019](#),¹³ the Commission published three technical studies that informed the revisions of the repealed POPs Regulation (Regulation (EC) 850/2004), including its two annexes concerning waste. It appears that they are useful sources of information also for the revision of Annexes IV and V to the recast POPs Regulation in force (Regulation (EU) 2019/1021) because the Commission used these studies' findings in its ex-ante IA accompanying its proposal for a revision. The three studies give information on aspects relevant to implementation such as typical waste streams, amounts generated and share of different waste treatments, including recycling.

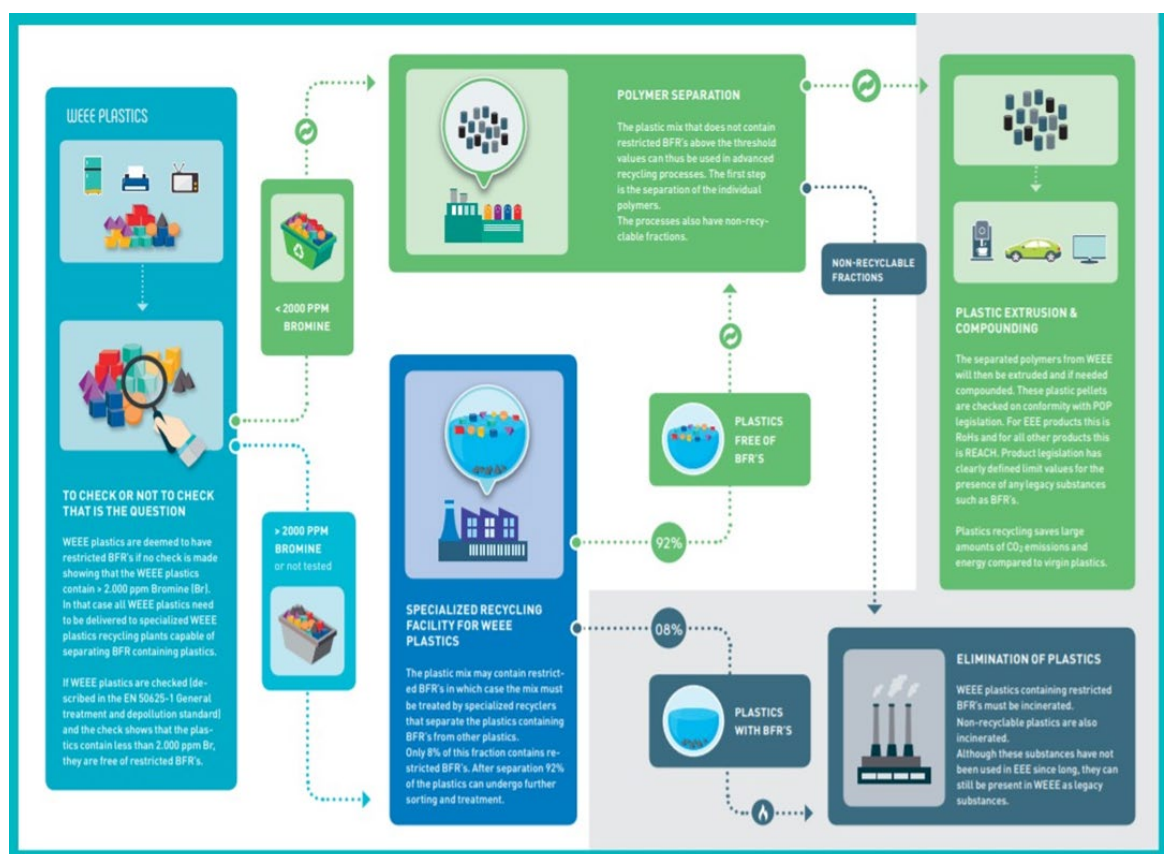
The most recent source of data on the implementation of waste-related aspects of the POPs legislation under revision, is an external [study](#)¹⁴ in support of the Commission's ex-ante IA accompanying the proposal for a revision of Annexes IV and V to the recast POPs Regulation in force. Among others, the study uses as references the three technical studies mentioned above. In particular, data on implementation is contained in the so-called 'baseline', which describes the current state of play for each substance or groups of substances¹⁵ concerned in terms of: waste streams; waste management operators; sorting, (pre-)treatment and analytical methods; final treatment; future trends have also been identified. The format of this briefing does not allow for information on each (group of) substance(s) to be provided. Nevertheless, these aspects are illustrated via the example of PBDEs and the treatment of WEEE containing PBDEs, as appropriate:

- **relevant waste streams** – WEEE plastics (small and large appliances, e.g. toys, leisure and sports equipment, TV housing and components, mobile phones, fax machines, remote controls, audio/video devices, etc.); plastics and textiles in ELVs (e.g. seats, rear deck, upholstery, visors, cables, electrical and electronic equipment (EEE), etc.); plastics

fraction in construction and demolition waste (CWDs) (e.g. structural insulations, cables/wiring); other CWDs (e.g. sealants from demolition and renovation, glues, roofing, polypropylene glass fibre, sealants/adhesives, coatings, epoxy resins); textiles and furniture (e.g. coated textiles, upholstery, window blinds, curtains, mattresses and carpets, tents); sewage sludge;

- **waste management operators** – these are the operators managing the waste streams most relevant to PBDEs presented above;¹⁶ the study notes that there are currently 30 specialised WEEE plastics recycling facilities in the EU;
- **sorting, treatment and analytical methods** – for example, the sorting, treatment, analytics of WEEE plastics at specialised WEEE recycling facilities include the following seven steps:¹⁷ 1. Manual/automatic disassembly/breaking/crushing of WEEE; 2. Shredding; 3. Separation of the plastic fraction; 4. Shredded plastics are separated into: high-bromine (Br) fraction (typically sent for incineration) and low-Br fraction* (typically used in recycling; a small share could also be landfilled); 5. Polymer separation (PP, PE, ABS, PS); 6. Blending/compounding/extrusion of plastic flakes; 7. Screening of post-consumer recycle granulate or pellets using X-Ray Fluorescence (Br) and verified from time to time by external lab analyses to ensure compliance with the unintentional trace contamination limits set in Annex I of the POPs Regulation. The steps are also illustrated in Figure 1 below.

Figure 1 – Treatment of WEEE plastics containing Brominated Flame Retardants (BFRs)



Source: [Study](#) to support the IA, Figure 3-1, p. 53 (Original image from EERA [factsheet](#)).

- **final treatment (current disposal/recovery outcomes)** – incineration, recycling and landfilling are the final treatment operations applied to relevant waste streams containing PBDEs. As regards WEEE plastics in particular, about 1 300 000 t of this waste, which contains around 850 t of PBDEs, is separately collected in the EU per year. Incinerated WEEE plastics amount to 580 000 t, which contain some 730 t of PBDEs from both the high-Br fraction (110 000 t of waste containing 690 t PBDEs) and the low-Br fractions (470 000 t of waste containing 40 t of PBDEs). Recycled WEEE plastics amount

to 560 000 t, which still contain about 60 t of PBDEs. Landfilled WEEE plastics amount to 190 000 t with a PBDEs content of 25 t.

Stakeholder consultations informing the revision

The revision of Annexes IV and V to the recast POPs Regulation in force was launched with the publication of an [inception impact assessment](#) (IIA) in May 2020, which was open for stakeholders' feedback. As the feedback received is relevant to the implementation, it is therefore briefly presented here.

Stakeholders are divided in their views. On the one hand, NGOs find that the recycling of POPs-containing waste is not compatible with the 'safe circular economy' concept; thus the removal of POPs from within the supply chain is given priority over the potential benefits associated with recycling them. On the other hand, industry stakeholders note that EU 'toxic-free environment' policies, including those striving for more recycling, often go in contradictory directions, and, as a result, waste operators are faced with situations where rules are unpredictable and not always feasible in practice.

Union implementation plans under the Stockholm Convention

Article 7 of the Stockholm Convention requires from its parties, including the EU and the individual EU Member States that have ratified it, to 'develop and endeavour to implement a plan for the implementation of its obligations under the Convention'. These plans need to be regularly updated. The most recent update of the Union implementation plan (UIP) is from July 2021¹⁸ and, among others, gives information on the implementation of the waste-related aspects of the recast POPs Regulation in force. Its findings, as presented in the relevant Commission [report](#) on the review and update of the third UIP, are briefly summarised below.

The report notes the achievement of 'significant progress' for the elimination of POPs. However, while the production and use of all POPs substances is prohibited (with some minor exemptions), the elimination of POPs from the waste cycle and remaining stockpiles is a 'main challenge' for the EU, as these are still a major source of POPs emissions. In terms of substances, the 'biggest challenges' are currently posed by brominated POPs (PBDEs and HBCDD) as well as PFOA, its salts and PFOA related-compounds.

As regards PBDEs and HBCDDs, the report notes that even if PBDEs and HBCDD were prohibited from use by the EU POPs legislation and then phased out some years ago, the lifespan of treated articles is a challenge for the management of waste materials containing these substances. Good progress has been made in the development of techniques for the identification and separation of these within waste streams. However, continued efforts are needed to help tackle the issues presented by brominated POPs in the waste stream. Furthermore, while treated plastics are managed under a defined waste stream under [Directive 2012/19/EU](#) (the WEEE Directive), treated textiles do enter municipal waste streams, where there is potentially a lower awareness of the issue.

As regards PFOA, its salts and PFOA related-compounds, the report notes that their use in a range of different applications is widespread across the EU with 'likely significant challenges' for waste and potential for emission. While PFOS and PFOA are already listed under the Stockholm Convention and the EU POPs legislation, work on other PFAS¹⁹ compounds is ongoing at both international level (including the nomination of PFHxS to the Stockholm Convention initiated by Norway) and EU level (including via the revision of the recast POPs Regulation in force, which this briefing focuses on). Therefore, actions to address PFAS in the EU and globally are included in the [chemicals strategy for sustainability – towards a toxic-free environment](#) published by the Commission in October 2020.

Another challenge noted by the report is the management of obsolete pesticides. In particular, in a few Member States, there are still stockpiles of obsolete pesticides containing POPs and for which production, use and placing on the market is already strictly forbidden under the EU POPs legislation. These stockpiles and other waste that consists of or is contaminated by POPs require adequate management to ensure environmentally sound disposal, including the specification and

revision of appropriate limit values and waste treatment operations. In this context, the report notes as relevant the fact that the Commission will submit a proposal for amending Annexes IV and V to the recast POPs Regulation in force (this proposal has now been published).

The report also notes implementation challenges as regards the final phasing-out of PCBs from dielectric equipment to meet the 2025 target set in the recast POPs Regulation in force, as well as issues with the communication between and engagement of those involved in implementation.

Against the background of the obligations stemming from the Stockholm Convention and taking into account the implementation situation in the EU, the UIP outlines 31 actions aimed at meeting the obligations. Several of these actions concern the waste-related aspects of the EU legal regulation. Action 15, in particular, requires the Commission to continuously review Annexes IV and V of the recast POPs Regulation in force and to propose amendments, as appropriate, to ensure environmentally sound management of waste consisting of or contaminated by POPs. The revision in the focus of this briefing is part of the Commission's delivery under Action 15.

Synthesis reports

Article 12 of the repealed regulation (Regulation (EC) 850/2004) required the Commission to report on its implementation based on information submitted by the Member States. So far, the Commission has submitted to Parliament and Council three such (synthesis) reports. Even if these do not strictly concern the implementation of the POPs Regulation (as recast in 2019 and in focus here), they are indeed relevant because the recast did not substantially change the waste related provisions of the repealed regulation. However, these three reports cover a period of implementation between 2004 and 2013, which makes them outdated. Therefore, only the findings of the third and most recent²⁰ synthesis [report](#) – published in March 2021 and covering the 2010-2013 implementation period – will be briefly presented here to give a flavour of the waste management aspects of implementation. In particular, the Commission notes a good number of Member States that have launched programmes to gather, stockpile and destroy obsolete pesticides. However, contaminated land is an issue, especially land lying close to an undefined yet potentially high number of sites where POPs had been produced in the past. The typical remediation steps involve excavation, which in turn generates large quantities of contaminated soil that has to be treated as hazardous waste. The [SWD](#) accompanying the third synthesis report gives further details on individual Member States.

European Parliament

Resolutions

The European Parliament has addressed POPs and their regulation, including waste management aspects, in its work as co-legislator on the POPs Regulation and its recast, but also in a number of non-legislative resolutions adopted on its own initiative. A few examples of the latter resolutions are presented below.

In the 8th term (2014-2019), Parliament adopted two resolutions that are highly relevant to the topic of this briefing. The [resolution](#) from September 2018 on the implementation of the circular economy package: options to address the interface between chemical, product and waste legislation ('interface' resolution) addressed POPs. Among others, the Parliament highlighted the requirement placed by Article 7(3) of the recast POPs Regulation in force, that disposal or recovery operations that may lead to recovery, recycling, reclamation or reuse of the substances listed in Annex IV of the regulation must be prohibited. Parliament also underlined that in a truly circular economy, products must be designed for upgradeability, durability, reparability, reusability and recyclability, and with minimal use of substances of concern. Moreover, it expressed hopes that innovative recycling practices would help to decontaminate waste containing substances of concern.

The 'interface' resolution furthermore insisted that the issue of products containing legacy substances should be dealt with by means of an efficient registration, tracking and disposal system. It also stressed that the use of substances of a toxic nature or substances of concern, such as POPs

and endocrine disruptors, should be specifically considered under the broadened eco-design criteria, without prejudice to other harmonised legal requirements laid down at EU level concerning those substances. MEPs also considered that, in order to address the issue of the presence of substances of concern in recycled materials, it would be advisable to introduce a product passport as a tool to disclose materials and substances used in products.

In February 2019, the Parliament adopted a [resolution](#) based on an implementation report of the Committee on the Environment, Public Health and Food Safety (ENVI) on [Directive 2009/128/EC](#) on the sustainable use of pesticides, which the Ex-post Evaluation Unit of EPRS supported with the publication of a dedicated [European implementation assessment](#). In particular, the Parliament called on the Commission and the Member States to ensure the effective implementation of the Union's obligations under the Aarhus Protocol and the Stockholm Convention, and therefore to both scale up their efforts to eliminate the manufacturing, placing on the market and use of POP pesticides, and establish provisions on the disposal of waste containing or contaminated by any of those substances.

In the 9th term (2019-2024), Parliament adopted several topical resolutions. In its January 2020 [resolution](#) on the European Green Deal (the 'Green Deal' resolution), it stressed the importance of developing non-toxic material cycles, stepping up the substitution of substances of very high concern, and promoting research and innovation to develop non-toxic products. POPs were also addressed by a July 2020 [resolution](#) (the 'chemicals strategy' resolution) setting out Parliament's priorities on the chemicals strategy for sustainability, which the Commission was (as per mid-2020) expected to submit. In particular, the Parliament reaffirmed that all regulatory gaps and weaknesses in the EU chemicals legislation should be eliminated and the legislation should be fully implemented. Moreover, it affirmed that the expected chemicals strategy for sustainability should effectively contribute to the rapid substitution, to the extent possible, of substances of very high concern and other hazardous chemicals (including POPs), including endocrine disruptors, very persistent chemicals, neurotoxicants, immuno-toxicants, and POPs, as well as tackling the combination effects of chemicals, nano-forms of substances and exposure to hazardous chemicals from products. The resolution also stressed that any ban on the chemicals referred to should take all aspects of sustainability into account.

A [resolution](#) adopted in February 2021 on the new circular economy action plan (proposed by the Commission in March 2020) reiterated the positions expressed in the 2018 'interface' resolution and the 2020 'chemicals strategy' resolution presented above. In particular, it underlined the key importance of achieving non-toxic and restorative material cycles for the success of the circular economy and for creating a sustainable single market, and ultimately for ensuring a toxic-free environment for Europe's citizens. The resolution insisted further that swift actions need to be taken to ensure implementation of the chemicals strategy for sustainability. Furthermore, the Parliament urged the Commission and the Member States to support the development of high quality collection, sorting and material reuse and recycling infrastructures, and to support research into the development of new innovative technologies that, among others, decontaminate recycles.

In its April 2021 [resolution](#) on soil protection, Parliament expressed regret that the EU authorisation process for chemicals, including environmental risk assessment and eco-toxicological studies, does not take due account of their impacts on soils. Furthermore, it called on the Commission to adopt in its new EU soil strategy (which as of April 2021 had not yet been adopted), also in alignment with the chemicals strategy on sustainability, regulatory measures to prevent and mitigate the pollution of soil by chemicals, in particular persistent and bioaccumulative chemicals (including plastics and microplastics), and to ensure that ecologically relevant test conditions representative of field conditions are met. The Commission [published](#) the EU soil strategy for 2030 in November 2021.

Written questions of Members of the European Parliament

Some (groups of) POPs, and mainly those belonging to the PFAS group of chemicals, have been subject to written questions submitted by Members of the European Parliament during Parliament's 8th and 9th terms.²¹ However, the questions and the relevant Commission answers do not

specifically refer to Annexes IV and V to the POPs regulations (both the repealed one and the one in force) and their implementation in the context of the relevant provisions on waste. The results from the search refer to either the design and implementation of other aspects of the two POPs regulations or (in the big majority of cases) to EU law on, for example, water, industrial emissions, air quality, food safety, environmental liability and to the general EU law on chemicals (including the REACH Regulation), and [Regulation \(EC\) 1272/2008](#) (the CLP Regulation).

Council of the EU

The Council has also addressed POPs in the context of waste. In their June 2019 [conclusions](#), Towards a Sustainable Chemicals Policy Strategy of the Union, the Member States' governments underlined the increasing health and environmental concerns posed by highly persistent chemicals. Furthermore, they specifically noted the growing evidence of adverse effects caused by exposure to highly fluorinated POPs such as PFAS, the evidence of a widespread occurrence of PFAS in water, soil, articles and waste and the threat this may cause to drinking water supplies. The Council thus called upon the Commission to develop an action plan to eliminate all non-essential uses of PFAS. It is worth noting that the [action plan](#) annexed to the chemicals strategy for sustainability, submitted by the Commission in October 2020, included several PFAS-related initiatives, including a proposal to restrict PFAS under the REACH Regulation for all non-essential uses including in consumer products. Furthermore, the strategy was accompanied by a [SWD on PFAS](#), which makes an overview of PFAS' chemical properties, the risks they pose and the possible way forward for their regulation.

In its December 2020 [conclusions](#) on Making the Recovery Circular and Green, the Council stressed the need to improve waste management and circular waste systems consistent with the waste hierarchy. It underlined therefore the importance of phasing out substances of concern and supported an enhanced circularity of non-toxic secondary raw materials in a toxic-free environment. Member States' governments thus welcomed the adoption of the chemicals strategy for sustainability.

Finally, yet importantly, the Council [conclusions](#) of March 2021 specifically addressed the chemicals strategy for sustainability. The Council stressed the importance of phasing out the substances of concern in products and recycled materials and the importance of the safe and sustainable-by-design approach in the context of a life cycle approach to chemicals, from the raw materials used for production to the waste stage. As in 2019, the Council paid special attention to PFAS. In particular, it underlined that PFAS require special attention since they pose threats to human health and the environment. It highlighted that PFAS should be eliminated unless their use is proven essential to society. Ministers thus called on the Commission to regularly inform the Council about the progress of the 'PFAS-Action plan included in the strategy'²² and invited the Commission to present further measures to complement the expected PFAS restriction proposal. The Council also underlined that the adoption of global strategic objectives and targets for the sound management of chemicals and waste beyond 2020 is important; furthermore, the ministers invited the Commission and the Member States to contribute further to the work on the establishment of a future global framework for the sound management of chemicals and waste beyond 2020.

European Economic and Social Committee

The European Economic and Social Committee (EESC) also addressed POPs. In particular, in July 2018, the EESC adopted an [opinion](#) on the Commission's proposal for the recast of the POPs Regulation, which is relevant to the waste-related aspects of the recast POPs Regulation in force. The EESC considered that training courses on POPs should be compulsory and available for all European workers whose job is directly or indirectly related to these substances this includes workers dealing with waste consisting of, containing or contaminated with POPs. The EESC stressed that these aspects are already part of ongoing legislation, but uncertain and weak implementation means that new tools need to be identified for more effective implementation. Therefore, the EESC recommended that information, education and training initiatives should be harmonised and considered part of the same strategy according to a life-long learning approach. The EESC also

recommended the creation of an open data bank on POPs in order to provide a useful tool for enterprises and consumers. The EESC reiterated this recommendation in an [opinion](#) of March 2019 on the Commission communication, Towards a comprehensive EU framework on endocrine disruptors.

European Committee of the Regions

In its [opinion](#) on safe and sustainable chemicals for a toxic-free environment in Europe's cities and regions adopted in May 2021, the European Committee of the Regions (CoR) underlined the importance of the need to manage waste arising from the withdrawal of some substances/products from the EU market. The CoR stressed that this issue involves financial and environmental costs and that the EU should support regional and local authorities as well as businesses to upgrade their facilities or change how they work, as well as to invest in sustainable innovation that will clean up waste streams, increase recycling and reduce landfilling, especially as regards plastics and textiles.

ENDNOTES

- ¹ The EEA's [European environment – state and outlook 2020 \(SOER\)](#) report says that phased-out POPs continue to be a significant source of exposure for humans because of their bioaccumulation properties. In particular, 'hundreds of POPs have been identified in human breast milk, including Polychlorinated biphenyls (PCBs) and brominated flame retardants (polybrominated diphenyl ethers (PBDEs)), as well as per- and polyfluorinated alkyl substances (PFAS)'.
- ² The SOER 2020 report (Chapter 10 'Chemical pollution') assessed that the annual health-related costs resulting from the exposure to PFAS amount to €2.8-4.6 billion for the five Nordic countries and to €52-84 billion for all EEA countries. The costs related to environmental remediation are estimated at €46 million – €11 billion over the next 20 years for the five Nordic countries (Nordic Council of Ministers, 2019).
- ³ As per 10 November 2021, the Aarhus Protocol to the Convention on long-range transboundary air pollution had been [ratified](#) by 34 parties in Europe and North America, including the EU and 23 of its Member States (EU-27).
- ⁴ As per 10 November 2021, the Stockholm Convention had been [ratified](#) by 185 parties worldwide, including the EU and 26 of its Member States (EU-27).
- ⁵ The latest (as per 11 November 2021) case of a listing initiated by the EU dates from 7 April 2021 when the Council of the EU [decided](#) to propose that chlorpyrifos be listed under Annex A (elimination) to the Stockholm Convention.
- ⁶ Regulation (EU) 850/2004 had to be aligned to certain procedural changes introduced by the Treaty on the Functioning of the European Union. More specifically, it was necessary to adapt its comitology procedures by specifying which rules were subject to implementing acts and clarifying which conditions apply to the adoption of delegated acts.
- ⁷ This annex is currently empty.
- ⁸ It is of note that, even if the IA covered PFHxS, its salts and PFHxS-related compounds, this group of substances was not formally included in the Commission proposal for a revision from October 2021. This is explained by the fact that this POP group is not yet officially part of the relevant annexes to the Stockholm Convention because of a delay in decision-making resulting from the coronavirus pandemic. In particular, the decision of the COP10 to the Stockholm Convention has been postponed from July 2021 to June 2022, and, as noted on p. 38 of the IA, once these substances become part of the Convention, the Commission together with the European Parliament and the Council will need to include them in the proposal to amend Annexes IV and V of the POPs Regulation (IA, p. 38).
- ⁹ Under the repealed Regulation (EC) 850/2004, the alignment of its Annexes IV and V with the Aarhus Protocol and the Stockholm Convention and the update of existing values against scientific and technical progress were done via the regulatory procedure with scrutiny.
- ¹⁰ The Commission's statement reads as follows: 'The Commission underlines that, notwithstanding the right of the co-legislators to choose the ordinary legislative procedure over delegated acts, the use of the ordinary legislative procedure to amend Annexes IV and V could compromise the ability of the EU and its Member States to comply with their international obligations under the Stockholm Convention and to negotiate concentration limits for POPs wastes within the Basel Convention, in view of the timelines and procedures that apply'. Source: Commission follow-up to the European Parliament legislative resolution on the proposal for a regulation of the European Parliament and of the Council on persistent organic pollutants (POPs) (recast), SP(2019)440-0.
- ¹¹ [Study](#) to facilitate the implementation of certain waste related provisions of the Regulation on Persistent Organic Pollutants (POPs), BiPRO, 2005.
- ¹² [Study](#) on waste related issues of newly listed POPs and candidate POPs, ESWI Consortium, 2011.
- ¹³ [Study](#) to support the review of waste related issues in Annexes IV and V of Regulation (EC) 850/2004, Ramboll Environment & Health GmbH, 2019.

- ¹⁴ [Study](#) to support the assessment of impacts associated with the review of limit values in waste for POPs listed in Annexes IV and V of Regulation (EU) 2019/1021, RPA/INERIS, 2021.
- ¹⁵ It is of note that the substance dicofol has not been included in the study. The Commission ex-ante IA to the proposal for a revision specifies that following the information available in the [2019 technical study](#) 'there is sufficient evidence to conclude that waste streams containing this substances are no longer relevant in the EU. Hence, a limit is proposed to be set in Annex IV in line with the Union's international commitments but will probably not have any significant impact on the ground in relation to waste streams'. Source: [SWD\(2021\) 300 final](#), Part 1/2, p. 42.
- ¹⁶ See details on waste management facilities in the EU relevant to waste containing PBDEs in Table 3-6 on pp. 51-52 of the study.
- ¹⁷ As provided in Table 3-7 on p. 54 of the study.
- ¹⁸ The UIP is laid out in the Commission SWD on the European Union Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants Accompanying the document Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the review and update of the third European Union Implementation Plan in accordance with Article 9(4) of Regulation (EU) 2019/1021 on persistent organic pollutants, [SWD\(2021\) 201 final](#).
- ¹⁹ PFAS stands for per- and polyfluoroalkyl substances. PFAS are a large family of thousands of synthetic chemicals that are widely used throughout society and found in the environment. The groups of PFOA (pentadecafluorooctanoic acid), PFOS (perfluorooctane sulfonic acid) and PFHxS (perfluorohexanoic acid), which are covered by the recast POPs Regulation in force and/or its revision, belong to the PFAS family.
- ²⁰ At the time of writing, the fourth synthesis report (for 2013-2015), appeared to be underway.
- ²¹ The Parliament's database was searched using the following key words of direct relevance to the scope of this briefing: 'persistent organic pollutant(s)', 'POP(s)', 'Regulation (EC) No 850/2004', 'Regulation (EU) No 2019/1021' as well as all the (groups of) chemicals (and their relevant abbreviations) scheduled for revision in the Commission inception impact assessment [roadmap](#). The last search was performed on 9 November 2021.
- ²² It is of note that the strategy does not contain a 'PFAS-Action plan'. The Council conclusions probably refer here to box No 14 of the strategy listing the initiatives on PFAS that the Commission intends to undertake, or the PFAS-related initiatives included in the action plan annexed to the strategy and/or the SWD on PFAS accompanying the strategy.

DISCLAIMER AND COPYRIGHT

This document is prepared for, and addressed to, the Members and staff of the European Parliament as background material to assist them in their parliamentary work. The content of the document is the sole responsibility of its author(s) and any opinions expressed herein should not be taken to represent an official position of the Parliament.

Reproduction and translation for non-commercial purposes are authorised, provided the source is acknowledged and the European Parliament is given prior notice and sent a copy.

© European Union, 2021.

eprs@ep.europa.eu (contact)

www.eprs.ep.parl.union.eu (intranet)

www.europarl.europa.eu/thinktank (internet)

<http://epthinktank.eu> (blog)

