

INCEPTION IMPACT ASSESSMENT

TITLE OF THE INITIATIVE	Update of concentration limit values of persistent organic pollutants in waste
LEAD DG (RESPONSIBLE UNIT)	DG ENV B.3. Waste Management & Secondary Materials
LIKELY TYPE OF INITIATIVE	Proposal for a regulation of the European Parliament and of the Council
INDICATIVE PLANNING	Q2 2021
ADDITIONAL INFORMATION	https://ec.europa.eu/environment/chemicals/international_conventions/index_en.htm

The Inception Impact Assessment is provided for information purposes only. It does not prejudice the final decision of the Commission on whether this initiative will be pursued or on its final content. All elements of the initiative described by the Inception impact assessment, including its timing, are subject to change.

A. Context, Problem definition and Subsidiarity Check

Context

The Communication on a [European Green Deal](#) envisages the proposal of a number of legislative waste reforms, which include amending the annexes of [Regulation \(EU\) 2019/1021](#) on Persistent Organic Pollutants (POPs), as further specified in the Communication on a [new Circular Economy Action Plan](#). The recently recast Regulation on Persistent Organic Pollutants requires the Commission to review its annexes IV and V, in which concentration limits are set for certain POP substances in waste. This is to introduce limit values for new substances whose listing has been agreed internationally under the [Stockholm Convention](#), and to adapt some existing values to scientific and technical progress. These limits largely determine the treatment of the waste and, in particular for limits in Annex IV, define whether a waste containing specific POP substances should be disposed of in such a way that the POP content is destroyed or irreversibly transformed or whether it can be subjected to other recovery or disposal operations, including recycling.

The task of setting these values relates directly to one of the issues discussed in the [Communication](#) on options to address the interface between chemical, product and waste legislation and in its [staff working document](#). Namely to find the optimum balance between the objectives, defined in the first Circular Economy Action Plan, of enabling recycling and promoting the uptake of secondary raw materials while at the same time substituting substances of concern and, where not possible, reducing their presence and improving their tracking. These aspects are further stressed in the new Circular Economy Action Plan, which seeks to enhance circularity in a toxic-free environment and, among other tasks, commits the Commission to develop methodologies to minimise the presence of substances that pose problems to health or the environment, in recycled materials or articles made thereof. This is particularly relevant in the case of POP substances which may be reintroduced into the economy as legacy substances in recovered material.

While under the [previous POPs Regulation](#) such adaptations were introduced through Commission delegated acts, the recast Regulation does so via the ordinary legislative procedure. A Commission proposal needs to be adopted swiftly in view of the deadlines to review values for certain substances¹ as required in the POP recast and regarding preparation of the next joint conference of the Parties of the Stockholm, Basel and Rotterdam Conventions scheduled to take place in Geneva from 19-30 July 2021.

Problem the initiative aims to tackle

POPs are a group of organic compounds that possess toxic properties, persist in the environment, accumulate in food chains and pose a risk to human health and the environment. Because of their persistence, these chemicals have the potential to be transported across international boundaries far from their sources through air, water and migratory species. Dealing with these substances in waste streams relevant in terms of recycling - like construction and packaging plastics, textile, waste electrical and electronic equipment and end-of-life vehicles, to the extent not already done in the specific acquis - is very important.

To avoid or minimise the presence of these pollutants in new products manufactured with recycled materials, the POP regulation establishes provisions for the environmentally sound management of wastes determining that: 1)

¹ Regulation (EU) 2019/1021 requires the review of the values established in its annex IV for the sum of certain polybrominated diphenylethers (PBDEs) by no later than 16 July 2021 and for hexabromocyclododecane (HBCDD) by 20 April 2019.

waste with high POP content levels is destroyed or irreversibly transformed (normally incinerated) and 2) wastes containing these substances below certain specific content limits can be disposed or recovered without the requirement that the POP content is destroyed or irreversibly transformed. Furthermore, the placing on the market of new products and articles is subject to maximum POP content limits also established by the regulation. The validity of this approach is widely recognised at international level under the [Basel Convention](#).

The Commission has to revise or define new values for ten different substances or families of POP substances in waste. Each of them are present in a variety of products and wastes which are of different relevance in terms of their amounts, material type, (current) recyclability and hazard/risk profiles. The problems to be addressed by this initiative are the negative consequences of the presence of certain POP substances in waste and in material that could be recovered from it. More specifically the substances concerned are:

- Polybrominated diphenyl ethers (sum of tetra-, penta-, hexa, hepta- and deca.bromodiphenyl ether);
- Short-chain chlorinated paraffins (SCCPs);
- Pentadecafluorooctanoic acid (PFOA) its salts and PFOA-related compounds;
- Perfluorohexanoic acid (PFHxS), its salts and PFHxS-related compounds;
- Hexabromocyclododecane (HBCD, HBCDD);
- Pentachlorophenol (PCP) and its salts and esters;
- Polychlorinated Biphenyls (PCB), including dioxin-like PCBs;
- Polychlorinated dibenzo-p-dioxins and dibenzofurans (PCDD/PCDF);
- Hexachlorobutadiene (HCB);
- Dicofof

The initiative faces the challenge to determine adequate limit values for each substance (or group of substances) in waste that guarantees its sound environmental management while ensuring the greatest overall benefit for society. This requires striking the right balance between promoting circular flows of the materials concerned and ensuring a high level of protection of human health and the environment.

Basis for EU intervention (legal basis and subsidiarity check)

Pursuant to Articles 191 (1) of the Treaty on the Functioning of the European Union, the European Parliament and the Council of the European Union adopted the Regulation (EU) 2019/1021, of 20 June 2019, on Persistent Organic Pollutants (recast). The initiative is partly in an area of shared competence, but its necessity and its EU-added value have been clearly recognised throughout the years and with the subsequent amendments of the Annexes of its predecessor, Regulation (EC) No. 850/2004. Pollution by POPs cannot be solved by the Member States acting alone. The chemical substances considered are transported across internal EU boundaries far from their sources. Avoiding releases from waste is a priority in this respect. The protection of the environment and of human health through a system that guarantees the sound management of POP waste can only be efficient if common rules are defined and established at the EU level. If national regulations were in place, cross-border effects could appear such as imbalances in the level of treatment of POP waste and there would be a risk of fragmentation of the Internal Market for the associated waste and recovered materials that should be avoided.

B. Objectives and Policy options

The POPs Regulation already provides general rules concerning limit values for POP substances in waste. Article 7 of the POPs Regulation provides that concentration limits are to be established for these substances in waste. Therefore, the possibility that POP substances, below certain concentration limits, can be introduced into products via recycled materials, is already envisaged in the basic act, as well as in the Stockholm Convention. The substances to be addressed in Annex IV and V updates result from international agreements in the context of this Convention.

Given the existing provisions under the Stockholm Convention and under the POPs Regulation, the Commission has no discretion regarding the choice of instrument or the substances to address. Consequently, the policy options to be considered in the impact assessment to support the measure are almost exclusively linked to the precise limit values to be proposed for each of the substances and, potentially to timeline related aspects such as transitional periods. For the purpose of the impact assessment, values will be selected from within a range of values, obtained from technical studies published in [2005](#), [2011](#) and [2019](#), existing and provisional/proposed values in legislation and [guidelines](#) and taking into consideration additional socio-economic elements from a study that is currently in preparation to support the impact assessment of the proposed measure. For each substance and associated relevant waste streams containing it, the values chosen will determine the amount of waste that has to be destroyed (generally by incineration) versus the amount that would potentially be available for recycling.

The substances hexachlorobutadiene (HCB) and dicofof, which have since long not been intentionally produced in the EU, will not be subjected to a detailed impact assessment, nor be included in the study in support of the IA because, according to the information available from a previous [study](#) there is sufficient evidence to come to

conclusions on these substances.

In addition to considering several options to review the limit for dioxins and furans, this assessment will investigate the scientific soundness and the impact of including 12 dioxin-like PCBs² into the aggregated limit values for dioxins and furans. This is proposed in view that, according to WHO-IPCS these dl-PCB have a similar chemical structure to dioxins and exhibit similar carcinogenic properties, although in general with lower potency ([Van den Berg *et al.* 2006](#)) than the reference dioxin TCDD.

C. Preliminary Assessment of Expected Impacts

Likely economic impacts

Given the proposed measure deals with ten different substances / groups of substances which are present in a variety of different waste streams of different relevance in terms of amounts generated, share of waste treatments currently used, sectors involved and recyclability of the materials, it is not possible to provide here a detailed overview of the potential impacts of setting limit values in Annex IV. Information on typical waste streams, amounts generated and share of different waste treatments, including recycling, is provided in the three studies mentioned in the section above. These studies provide indications that, for limit values proposed, the economic impact would be low or acceptable, based on the expected shifts from recycling to other options such as energy recovery or, to a lesser extent, landfilling.

In general terms, lowering Annex IV values from their current baselines will generally result in greater amounts of waste becoming unavailable to be recycled and being diverted to disposal operations, in most cases via incineration. This is particularly relevant for waste streams associated with PBDEs (present in WEEE and ELV plastics, plastics from construction and demolition and textiles), to HBCDD (present in expanded and extruded polystyrene arising as packaging and construction & demolition waste), SCCPs (present in certain rubber goods such as conveyor belts from mining industry and in construction waste) and for pentachlorophenol present in treated wood and certain textiles. This is also the case for waste containing dioxins and furans which are present as unintentional constituents of certain ashes from thermal processes which, in some countries, are recycled into construction materials (eg for roads).

In addition, a reduction in the limit values in Annex IV will result in differing amounts of waste becoming unavailable to be recycled, affecting, not only those who manage waste and place on the market the recovered materials, but also the users of these materials, the producers of the primary raw materials that are substituted, as well as the general public and environmental receptors that will be affected in a positive or negative manner, depending on the limit values ultimately adopted. Every effort will be made to identify any potential of leakage of POP substances in recycled materials to particularly sensitive uses, such as food contact materials or toys, so these can be addressed and avoided.

Likely social impacts

- The potential different impacts of different limit values cannot be described for each substance and waste stream affected however these can be outlined in a generic manner. Generally, lower limit values will reduce the amount of material available for recycling, resulting in more material being destroyed, potentially resulting in:
- Reduction or elimination of certain recycling activities, with negative consequences in employment directly related to them and to the placing on the market and transformation of the recovered material (eg reduced recycling of waste plastic from electronic equipment, of construction and demolition waste).
- The latter may however lead to an increase in employment associated with the irreversible destruction of POP waste as well as with an increase in activity and technological development associated to improved sorting and decontamination of waste streams concerned (which may or may not offset the previous effect),
- Changes in waste management costs, i.e. due to greater amounts destined to incineration. In the case of wastes containing dioxins and furans, a lowering of the annex IV limit value may have a direct impact on the amounts and types of wastes classified as hazardous³ and consequently on their management costs.
- From the point of view of worker protection it may have a positive health impact upon workers in waste management facilities due to reduced exposure to POP substances in the treated waste, as well as of converters of the materials obtained.
- Lower amounts of POP substances in articles, including consumer articles, potentially resulting in reduced exposure and lower health risk to the general population (i.e. reduced exposure to flame retardants, pesticides or fluorinated substances, either directly or via the environment).

² PCB-77, PCB-81, PCB-105, PCB-114, PCB-118, PCB-123, PCB-126, PCB-156, PCB-157, PCB-167, PCB-169, PCB-189.

³ The annex of Commission Decision 2000/532/EC states that “Wastes containing polychlorinated dibenzo-p-dioxins and dibenzofurans (PCDD/PCDF), DDT (1,1,1-trichloro-2,2-bis (4-chlorophenyl)ethane), chlordane, hexachlorocyclohexanes (including lindane), dieldrin, endrin, heptachlor, hexachlorobenzene, chlordecone, aldrin, pentachlorobenzene, mirex, toxaphene hexabromobiphenyl and/or PCB exceeding the concentration limits indicated in Annex IV to Regulation (EC) No 850/2004 of the European Parliament and of the Council (1) shall be classified as hazardous.”

<p>Likely environmental impacts</p> <p>Lower limit values will generally reduce the amount of material recycled, resulting in more of it being destroyed, potentially resulting in:</p> <ul style="list-style-type: none"> • Loss of raw materials that have to be substituted by primary material that has to be extracted or synthesised. This results in increased use of energy and resources to produce primary material and may also increase dependence on imported goods. • Net increase in greenhouse gas emissions as a result of incineration of waste and from additional energy requirements to manufacture and transport substitute primary material (magnitude and distribution in time will be estimated to the extent possible). Potentially negative climate impact. • Potential increase in environmental emissions of hazardous substances associated with waste disposal (e.g. via incineration or landfill). • Reduction in direct emissions of POP substances during recycling activities and during service life of POP containing recycled materials and articles made thereof. • As a consequence of reduced POP emissions, increased protection of water, soil and air and increased protection of biodiversity, flora and fauna.
<p>Likely impacts on fundamental rights</p> <p>A reduction in overall emissions of POP substances and its contribution towards achieving a zero-pollution Europe will have a role in effectively providing access to clean water and air and, overall to a healthy living environment.</p>
<p>Likely impacts on simplification and/or administrative burden</p> <p>The listing of new substances in Annex IV will likely result in an increased administrative burden to waste producers, waste operators and public administrations responsible for waste in the sense of:</p> <ul style="list-style-type: none"> • Increased obligations for waste producers and operators in terms of increased amount of chemical analysis / monitoring of new substances • Increased reporting obligations for waste producers, operators and for the public administrations (including reporting to the European Commission). <p>The Commission has however no discretion regarding the inclusion of substances in Annexes IV and V, which result from its obligations under the Basel Convention, nor in the obligations imposed on the different actors, already defined in the POP regulation (recast).</p>
<p>D. Evidence Base, Data collection and Better Regulation Instruments</p>
<p>Impact assessment</p> <p>An impact assessment will be carried-out to support this initiative and to inform the Commission's decision. A study, focusing on socio-economic and environmental impacts of the proposed measure is also in preparation to support the impact assessment. It is envisaged that the bulk of the impact assessment will be carried out throughout the year 2020.</p>
<p>Evidence base and data collection [max 10 lines]</p> <p>Information to support the impact assessment is already available from extensive studies [2005, 2011, 2019] commissioned to support the review of limits values in annexes IV and V of Regulation (EC)850/2004. Relevant information is also available in the General Technical Guidelines published by the Basel Convention, and in related documents. These provide information on the substances and their uses, the presence of the substances in different waste streams and associated material flows and on the fractions of waste per treatment operation and how this would change under different scenarios. Relevant information for this impact assessment is also found in the summary report of the responses (specifically on issue #2) to the open public consultation that the Commission carried out on its Communication on the interface between chemical, product and waste legislation adopted in January 2018.</p> <p>An additional study was commissioned in December 2019 in order to complete knowledge gaps which remain, relative to the relevant POP substances and in particular to provide an enhanced assessment, with quantified costs and benefits, to the extent possible, of the environmental, social and economic impacts of the different options considered (associated to the setting of different limits values for the different substances).</p>
<p>Consultation of citizens and stakeholders</p> <p>The aim of the consultation is to obtain information on all possible environmental, social and economic impacts on the different stakeholders concerned that could result from the inclusion of substances in Annexes IV and V of the POP regulation and of the consequences of introducing specific limit values.</p> <p>The twelve week public consultation prescribed by the Better Regulation Guidelines of the Commission will not be carried-out in support of this study because a public consultation regarding the presence of substances of concern in recycled materials has already been carried out addressing the broader, less technical societal concerns posed</p>

by this measure. A [summary report](#) of the public consultation was published on 28 February 2019.

The following stakeholder groups have been identified as particularly relevant: major manufacturing sector associations / companies (basic chemicals, plastics, metals, minerals, paper and cardboard, electronics, home appliances, etc), waste managers, in particular recyclers and waste-to-energy operators, as well as national authorities and enforcement agencies, NGOs, scientific and academic institutions and health and environment experts.

An analysis will be made of the input received from this consultation carried out by the Commission on its inception impact assessment report, as required under the [Better Regulation Guidelines](#). A targeted stakeholder consultation will be carried out, in English, comprising all aspects relevant to the Impact Assessment, including socio-economic elements, for the specific measure. The consultation will comprise a dedicated questionnaire, to be submitted electronically and, as appropriate followed-up by means of dedicated telephone or face-to-face interviews with stakeholders representing key sectors and organisations concerned.

Will an Implementation plan be established?

No Implementation Plan is envisaged for this measure given that the POP regulation has been in place since the year 2004 and is being implemented by Member States since then. The current measure introduces technical modifications to Annexes IV and V that do not require the development of an implementation plan.