

ANNEX

This Annex presents the preliminary understanding of relevant provisions in the EU environmental protection acquis, providing for a strong case to Member States to take pro-active regulatory action on PFAS pollution prevention at source, notably through an ambitious transposition and implementation of the revised IED provisions which is fit for purpose and aligned to relevant EU instruments on water protection, with recommendations made towards that end. Specific recommendations for the upcoming review of Annex II of the Regulation Establishing the Industrial Emissions Portal are also highlighted and addressed preliminary towards the European Commission. Those are not meant to be exhaustive but only highlight opportunities immediately available in 2025 (to stop PFAS pollution sabotaging our future).

REACH / IED / other EU acquis interplay considerations in the field of water

The universal restriction under REACH is considered as the most effective measure to address the PFAS issue in particular because it will also address sources from products / imports that the other EU source policy instruments cannot address. However, the REACH Restriction is still far away to produce real effects and will not address de-contamination (legacy pollution), not address compensation rights, nor provide a targeted media specific pollution prevention action. Each pollution prevention framework needs to mutually reinforce the goals of rapid phase out of any further pollution releases, improve the monitoring deficit and further address legacy pollution (remediation) through a coherent and complementary manner.

Relevant IED Provisions

1. Interpretation support for sound transposition

a. General obligation to set measures on pollution prevention / reduction at source

Contrary to the German government claims, there is a strong legal case for Member States to take action on pollution prevention at source on PFAS. First, the objective of the IED is clearly drafted: rules are to **prevent, or where that is not practicable, to continuously reduce emissions into air, water and land** [...] and to promote the circular economy, **in order to achieve a high level of protection of human health and the environment taken as a whole**. (see Article 1). The clarification of the objective to continuously reducing emissions is clear, a static inactive approach such as taken by the German government [see Attachment n°1] is not in line with the IED objective. The definition of “pollution” and “emissions” is very broad and unchanged. The key provisions are set in its Art. 11, setting out “general principles governing the basic obligations of the operator”. Member states are as a minimum required to apply the cumulative principles in setting measures regulating the operation of installations: This means, all principles listed in its points a) to h) need to be translated into concrete measures. Hence, Member States need to ensure that ‘all the appropriate preventive measures are taken against pollution’ (point a) as well that ‘no significant pollution is caused’ (point c). Those minimum principles are further elaborated in Art. 14 (see point c of this Annex). What is appropriate should be read in accordance with the objectives of the Directive as well as other specific provisions of the relevant EU acquis. EU water protection laws set a “no deterioration principle”, which are further triggered through Art. 14 and 18 of the IED.

b. No need to await the establishment of EU BAT-Conclusion to take action (incl. ILVA ECJ case)

The German government claim that there is “no legal basis” to set emission limit values (ELVs) or other national measures due to absence of EU BAT- Conclusions should be refuted.

Point b) of Art .11 of the IED requires best available techniques to be applied as a general requirement, however this should not mean that in the absence of BAT the other provisions i.e. taking preventive measures against pollution / not to cause significant pollution are in-operational. Rather, those are meant to be understood as supplementary obligations of the operator.

Secondly, Art. 14(3) states that BAT-Conclusions shall be considered as ‘a reference’ for setting the permit conditions, a *contrario* that cannot mean that in the absence of dedicated BAT-C on PFAS the permit writer may ignore a pollution situation issue at hand, seriously undermining the policy objectives. The provision set in Art. 14(6), oblige Member States to determine the best available techniques for the activities or process concerned considering the criteria in Annex III and to set permit conditions on this basis, if the activity or type of production process is not covered by any of the BAT conclusions or where those conclusions do not address all the potential environmental effects of the activity or process. These provisions have not changed with the IED review.

Art. 14(1) sets the minimum measures that have to be taken by Member States in regard to emission limit values to be set in permit conditions for IED activities – without making the setting of these in any way depending on the existence of BAT conclusions. The European Court of Justice has provided a crystal-clear clarification on the assessments permitting authorities need to conduct to conclude which pollutants need to be covered by emission limit values. The Court ruled that the IED must be interpreted as meaning that, for the purposes of granting or reconsidering a permit to operate an installation under that directive, “**the competent authority must take into account, in addition to the polluting substances that are foreseeable having regard to the nature and type of industrial activity concerned, all those polluting substances which are the subject of emissions scientifically recognised as harmful which are liable to be emitted from the installation concerned, including those generated by that activity which were not assessed during the initial authorisation procedure for that installation.**”¹

The Court found that the concept of pollution relates to harm caused both to the environment and to human health (para 89) and that operators must ensure compliance with the precited minimal requirements throughout the period of operation, ‘by a continuous assessment of the effects of the activities of that installation on the environment and on human health’ (para 94). This continuous assessment also must be ensured by the Member States and their competent authorities as an integral part of the permitting procedure (para 95). The Court further finds that for the purposes of granting or reconsidering a permit condition, the competent authority shall also consider substances that are generated by the activity which were not assessed during the initial authorisation procedure for that installation (para 106 and 110). The Court concludes that ‘only polluting substances considered to have a negligible effect on human health and the environment may be excluded from the category of substances which must be accompanied by emission limit values in the permit to operate an installation.’ (para 114). It is widely recognised in scientific circles and by the German government (which has filed for an Annex XV Restriction proposal under REACH²), that the majority of PFAS release have a more than negligible effect on both human health and the environment. It is therefore not permissible under the IED for permitting authorities to exclude these from the category of substances which must be accompanied by emission limit values.

The favourable ruling has been provided on the basis of the IED Art. 14(1) in force in 2013, which in the meantime got tightened even further so to protect water bodies (see point c of this Annex).

- c. **Stricter provisions specifically aimed to protect EU water bodies and mandating action at source on pollution prevention on Member States**
 - o **Art 14(1) – general case**

¹ See ECJ Case C-626/22 Ilva SpA and others
<https://curia.europa.eu/juris/document/document.jsf?docid=287502&mode=req&pageIndex=1&dir=&occ=first&part=1&ext=&doclang=EN&cid=22537459>

² See Annex XV dossier on PFAS <https://echa.europa.eu/registry-of-restriction-intentions/-/dislist/details/0b0236e18663449b>

The reviewed provision of the IED is stronger on water protection and the legal mandate set on Member States to take necessary action through permit conditions, even if the previous provisions were also sufficient to mandate Member States to take actions at the source (see point b above).

First, it states that *“Member States shall ensure that the permit includes all measures necessary to comply with the requirements of Articles 11 and 18. To that effect, Member States shall ensure that permits are granted further to consultation of all relevant authorities **with a responsibility regarding compliance with Union environmental legislation, including with environmental quality standards.**”* The general compliance promotion with EQS is highlighted, which is relevant for PFAS due to its listing as an EQS under Directive 2020/2188/EU.

Secondly, the amended Art 14(1) point (a) explicitly refers to polluting substances listed in Annex II of the (IEP-R), and for other substances to consider ***“their hazardousness and their potential to transfer pollution from one medium to another, taking into account the variation of water flow dynamics in receiving water bodies”***. There are special and unique features of PFAS, which due to their hazard potential and migration potential from various medium (in particular air-water-soil/human pathways) have been listed under Directive 2020/2188/EU.

Thirdly, the revised IED requires the setting of ***“appropriate requirements ensuring the assessment of the need to prevent or reduce the emissions of substances fulfilling the criteria of Article 57 or substances addressed in restrictions in Annex XVII to regulation (EC) No 1907/2006”***.

Again, it may be argued that this is clearly the case at hand, considering that a group of Member States, incl. Germany, have considered that the criteria of Art. 57 of REACH are fulfilled. If that were not the case, no Annex XV dossier for an universal Annex XVII PFAS restriction pursuant to REACH would have been submitted by those Member States.

We want to highlight in this regard that a strong signal on the “need to act now” is a legitimate expectation not only for EU citizens (due to health concerns) but also other economic actors relying on good (chemical) quality of the water bodies such as drinking water suppliers. Considering that real protection goals will only be delivered if permit conditions updates are swiftly triggered, the Commission shall send a clear signal that both of the general permit review trigger cases specified in Art. 21(5) point a) and point c) are met in relation to PFAS pollution. First, we regard any PFAS emission from IED activities as “significant” pollution that requires ELVs to be set in the permit, let alone for the reason of making the compensation right operational due to the significance of the remediation costs and human health impact potential aggravated in case of inaction by the Member State Competent Authority. Secondly, point c) makes an explicit permit review trigger obligation when “necessary to comply with an Environmental Quality Status” “or where the status of the receiving environment requires a revision of the permit in order to achieve compliance with plans and programmes et under Union legislation”. The predominant group of PFAS are persistent by nature and hence at the source pollution prevention action needs to take place.

The COM has very recently confirmed in its 3rd RBMP for Germany that *“It is also unclear whether Germany is working on reducing pollution loads by means of revising of existing water pollution permits. This is paramount to address remaining persistent pollution challenges that will worsen due to climate change. In this context, licensing authorities and/or the Federal Government are also urged to set emission limit values for the discharge of PFAS containing waste waters into the Rhine to replace the current indicative values that are not legally enforceable”*³. The recommendation actually confirms a very similar recommendation made already back in 2022 (linked to Oder pollution). Whilst this recommendation is more than welcome (as was the earlier one), it is clear that Germany has not taken any action so far on the matter.

³ See SWD(2025)25 final, of 4 February 2025 page 11

Hence the section ‘What Germany is ~~shall be~~ doing to combat pollution from other sectors’ should be amended to reflect the current state of affairs.

The legal service and Secretariat General of COM should take any further follow up measures action at its disposal to rectify this biased pro-chemical industry interest’s stance at highest political levels.

○ **Art 7 and 14(1) – specific case (water abstraction area)**

The revised IED also tightened up requirements to safeguard water abstraction areas, notably Recital 19 (Directive 2024/1785/EU) Art. 7 and Art. 14(1) point b). The amended requirements of Art. 7 IED state ***“In the event of pollution affecting drinking water resources, including transboundary resources, or affecting waste water infrastructure in the case of indirect discharge, the competent authority shall inform the drinking water and waste water operators affected of the measures taken to prevent damage being caused, or remedy the damage caused, by that pollution to human health and the environment.”***

In our view the specific provisions precited relate to any event of pollution affecting drinking water resources or in the case of affecting wastewater infrastructure and not just in case of an event of “any incident or accident significantly affecting human health or the environment in another Member State”, requiring supplementary obligations, which is provided for in the last paragraph of Art. 7.

In conclusion this provision should be understood to mean that the Member State has an (implicit) obligation to a) take measures to prevent damage being caused to drinking water resources, or b) remedy the damage caused since it must inform the drinking water and wastewater operators on precisely those measures (to be taken). It is also clear that the provision may apply to stand alone wastewater installations of chemical sites. The provision highlights the need for action in case of transboundary drinking water impacts, but this is not limitative.

Art. 14(1) b of the revised IED also provides for helpful and clear obligation. It adds the following supplementary obligation on Member States to set ***“appropriate requirements ensuring protection of the soil, groundwater, surface water and catchment areas for abstraction points of water intended for human consumption as referred to in Article 7 of Directive (EU) 2020/2184, and measures concerning the monitoring and management of waste generated by the installation;”***

The Groundwater Directive sets, amongst others, ELVs for the sum of PFAS set at 0,5µg/l and for a subset of 14 PFAS set to 0,1µg/l⁴. Whilst the provision do not lay down as to what “appropriate requirements ensuring protection of the soil, groundwater, surface water and catchment areas” could be meant, we take the view that this provision mandates an obligation of result i.e. “ensuring protection” which is diametrically opposed to taking the current passive approach.

Further, the revised IED has set specific requirements for indirect discharges in relation to wastewater (Art.15) which can also be relevant to PFAS issues. It requires as a general principle to set ELVs at the point where the (initial) emission leaves the installation (and to prevent dilution). Further requirements have been added to permit indirect discharges, such as the obligation for downstream wastewater treatment plants to be “designed and equipped to abate the released polluting substances”. This is generally not the case for municipal wastewater plants, not equipped to abate PFAS.

It should be clear from the ILVA court case but also from the revised IED provisions that a pro-active pollution prevention action is expected on Member States in regard to PFAS, it is irrelevant on whether BAT exist on those parameters.

⁴ See Annex I of Directive 2020/2184

d. Art 18 and prohibition of granting derogations pursuant to Art 15(4)

The IED explicitly requires Member States to take action to safeguard the achievement of Environmental Quality Standards (EQS) as per Art. 18 and Art. 14. These requirements pre-existed and have been tightened on certain aspects. It is clarified that the aim is to achieve EQS irrespective of existence or stringency of BAT conclusions, additional measures (at national level) **shall reduce the specific contribution of the installation to the pollution occurring in the relevant area**. The provision state that where the **“load of pollutants** emitted by the installation **has a quantifiable or measurable effect on the environment, Member States shall ensure that the concentration of the pollutants concerned in the receiving environment is monitored.”** We may argue that due to the specific nature of PFAS, notably its persistency and bio-accumulation, the load of pollutants will always have a quantifiable and measurable effect on the environment (unless strict pollution prevention at source limits are taken at its source). Considering that PFAS is subject to EQS as per the Drinking Water Directive 2020/2184 (0.1 µg/L for the sum of 20 PFAS and 0.5 µg/L for ‘PFAS total’), the pollutant group should be explicitly considered as relevant for the application of this article. The Water Framework Directive list PFOS as a priority substance, with EQS set in the Environmental Quality Standards Directive).⁵ Based on the inherent problematic properties of PFAS, the COM should clarify that the use of an Article 15(4) derogation should be excluded for this group.

e. Necessity to act in relation to fair and effective implementation of compensation right

The findings of the Forever Pollution Project evaluate remediation costs of PFAS pollution at €2 trillion (estimated to 20 years), or €100 Billion per year⁶ if emissions continue to be unrestrained.

The effective use of the compensation right as per Article 79a, depends very much on the setting of national measures or active measures to be taken by the Member States, and does not address the issue of omissions / in action by Member State Competent Authorities. Unfortunately, the compensation right in relation to PFAS contamination would only be operational if both of the following trigger cases are fulfilled:

- a) The member state has taken a national measure pursuant to the IED such as having set permit conditions or has set general binding rules (“positive” measures);
- b) The national measure stated in point a) has been breached;
- c) A human health impact due to the breach relates to human health impacts.

It is clear that the need to set ‘positive measure(s)’ is not only required for the reasons of pollution prevention to safeguard environmental and human health protection but also to allow the (eventual) use of the compensation right to operate. It is important to highlight that:

- There is no specific compensation right for other economic actors suffering a surplus cost to decontaminate water resources in order to comply with a given EQS such as drinking water providers generated by other IED activities e.g. chemicals manufacturing sites (not adequately regulated at the source).
- No compensation right exists against Member State Competent Authorities or Ministries failing to take adequate action on pollution prevention at source.
- Passivity will mean a serious undermining of the polluter pays principle to a polluted victim pays further principle. EU Taxpayers money may also be used in case of potential infringement cases against Member States not complying with relevant EQS, all to the benefit of the real polluters (e.g. manufacturers of the PFAS or industrial users of PFAS).

⁵ Inland surface water: Annual Average (AA) 6,5 x 10⁻⁴ µg/L, Maximum Allowable Concentration (MAC) 36 µg/L, EQS biota 9,1 µg/kg wet weight

⁶ <https://foreverpollution.eu/lobbying/>

2. Measures taken at regional level / in other Member States

Several Member States have already taken some action aimed at protecting drinking water, as presented in the EEB analysis⁷. However, of the 19 MS assessed, most do only implement guideline values, for a subset of PFAS and most kicking in only as from 2028.

a- Germany: federal level

At the federal (national level), a guideline level of 20ng/l applies for PFAS-4 in drinking water as from 2028. No specific requirements apply to surface or groundwater.

b- Germany: Region of North Rhine Westphalia (NRW)

The competent authority set since 16/06/2014 an executive degree ("NRW – Erlass") with non-binding "orientation values" set for surface waters as follows:

- concentration limit for the group of PFOA/PFOS 0.3µg/l, combined with
- load based limit set to 10g/day
- concentration limit for 14 PFCs set to 1µg/l of load based 35g/day.

Einleitungen in Oberflächengewässer

- **NRW-Erlass vom 16.06.2014**
(„Neubewertung der PFT-Substanzen“)
- Für **Direkteinleitungen** in Oberflächengewässer gilt in NRW ein Orientierungswert von **0,3 µg/l für die Summe PFOA+PFOS** und ein Orientierungswert von **1,0 µg/l für die Summe aller gemessenen PFC**
- Maßstab Oberflächengewässer:
Hinweis auf die Richtlinie 2013/39/EU:
UQN PFOS = 0,65 ng/l
 - Um diese Anforderung zu erreichen, müssen alle Maßnahmen auf eine **Vermeidung bzw. Verminderung von analytisch messbaren PFOS-Emissionen** (und anderer per- und polyfluorierten Verbindungen) ausgerichtet werden.
 - Einleitungen sind nach dem **Stand der Technik** aufzubereiten.
 - Es gilt das Verschlechterungsverbot.
 - Einzelfallentscheidung!



See power point of MSCA (LANUV) of Northrhine Westphalia ⁸

See also LANUV dedicated website <https://www.lanuv.nrw.de/themen/themenuebergreifende-aufgaben/gefahrstoffe/pfas/pfas-im-wasser>

c- Germany: Bavaria

In Bavaria, guidance values have been set in 2017 that apply to both groundwater and soil.

d- The Netherlands

A guideline value of 4.4ng/l is set for PFOA equivalents in drinking water.

e- Denmark

A guideline value of 2ng/l is set for PFAS-4 in drinking water.

f- Spain

A guideline value of 70ng/l is set for PFAS-4 in drinking water.

g- France

⁷ <https://eeb.org/library/briefing-paper-tackling-pfas-in-drinking-water/>

⁸ https://www.schleswig-holstein.de/DE/fachinhalte/A/altlasten/Downloads/vortrag3_2018.pdf?__blob=publicationFile&v=3 + https://www.lfu.bayern.de/analytik_stoffe/pfc/fachtagungen/doc/pfc_kontamination/2_pfc_bewertungsmassstab_nrw.pdf

The national limit for drinking water is set to 100ng/l for the sum of 20 PFAS in accordance to the national decree of 2022. The national action plan presented on 5/04/2024⁹ provides the following measures: measurement requirements for releases in the air route ((co)incineration) in 2024 as well as water pathway in the period Sept 2023-june 2024 (relevant for 4000 industrial sites). Action n° 16 explicitly mentions the setting of ELVs for industrial activities (also lower thresholds than IED). However the action suggests an 'alignment' to what is practiced at EU level and USA.

h- Italy

A guideline value of 100ng/l is set for a sum of 24 PFAS in drinking water.

i- Belgium

A guideline value of 4ng/l is set for PFAS-4 in drinking water, only in Flanders. For industrial wastewater, the Ministerial Decree of 09/03/2023 set a limit to 20ng/l for quantitative PFAS and 50ng/l for PFAS that "can be measured".

Key expectations in relation to secondary acts taken pursuant to the Regulation establishing the Industrial Emissions Portal

During co-decision, the EEB, together with representatives of industry (namely Eureau and Hazardous Waste Europe) took a clear position that a straight listing of PFAS as a group should be added to Annex II of the Regulation Establishing the Industrial Emissions Portal (IEP-R)¹⁰.

The European Commission shall adopt by latest 31 December 2025 an implementing act in regard to the updated list of pollutants and potential reporting thresholds. The political signal is clear as per its recital 29, stating that the delegated act in question should "specifically assess the need to reduce the reporting thresholds for per- and polyfluoroalkyl substances (PFAS) and other relevant substances".

In our view, a straight listing of PFAS as a group is required as per Article 15(2) of the IEP-R because it fulfils at least 2 of the 4 conditions stated in its point a):

First, the PFAS as a group is designated as a substance (group) covered by an entry in the restriction Annex XVII of REACH [see [here](#)].

Secondly, the pollutant (as a PFAS group) is subject to limit values or other restrictions under Directive 2020/2184 Annex I, part B. The entry refers to the sum of PFAS listed in point 3 of Part B of Annex III. This is a subset of 'PFAS Total' substances that contain a perfluoroalkyl moiety with three or more carbons (i.e. $-CnF2n-$, $n \geq 3$) or a perfluoroalkylether moiety with two or more carbons (i.e. $-CnF2nOCmF2m-$, n and $m \geq 1$).

Thirdly, there is a strong political mandate set within the IEP- R to update thresholds for the release of pollutants so as to achieve the goal of **"capturing at least 90 % of the release of each pollutant to air, water and land from activities referred to in Annex I, including thresholds of zero for substances constituting a particularly high hazard for human health or the environment"**;

In the US, the EPA has finalized¹¹ a reliable method for measuring 40 PFAS compounds in wastewater, ensuring consistent and accurate assessments of contamination levels, this measurement method is directly applicable.

⁹ See <https://presse.economie.gouv.fr/download?n=1729%20-%20DP%20-%20Plan%20d%27actions%20interministeriel%20sur%20les%20PFAS-pdf&id=127881>

¹⁰ Regulation (EU) 2024/1244 of 24 April 2024 on reporting of environmental data from industrial installations, establishing an Industrial Emissions Portal https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:L_202401244

¹¹ <https://www.epa.gov/cwa-methods/cwa-analytical-methods-and-polyfluorinated-alkyl-substances-pfas>

In conclusion: We believe that PFAS show a particular high hazard for either human health and the environment and hence should not have any reporting thresholds. The reporting threshold should be set on the basis of 'Limit of Detection' / "Limit of Quantification (LoQ)"¹². For the air monitoring method, we suggest allowing operators to use Organic Fluorine as a surrogate parameter. The same method (adsorbable Organic Fluorine) is approved for the soil/water pathway in the US.

The 2021 OECD definition for the class of PFAS lists 'fluorinated substances that contain at least one fully fluorinated methyl or methylene carbon atom (without any H/Cl/Br/I atom attached to it), i.e. with a few noted exceptions, any chemical with at least a perfluorinated methyl group (–CF₃) or a perfluorinated methylene group (–CF₂–) is a PFAS'. The listing of 'Fluorinated organic substances' need to be kept. This definition is also endorsed by OSPAR¹³.

Already back in June 2022, following the publication of the Proposal for a revised IED, the EEB alerted about the fact that a high number of pollutants that were previously covered by the Annex II of the IPPC/IED would be lost as it stands with the outdated Annex II of the E-PRTR / IEP-R¹⁴. The following PFAS relevant pollutants are highlighted for the water route: "organohalogen compounds" was listed in IPPC/IED, whilst entry 86 of the E-PRTR reads "fluorides (as total F)", which could potentially include organic fluorides (i.e. all PFAS), however thresholds are very high. No thresholds existed in the IED Annex II for those pollutants. It should be made clear in the IEP-R Annex II that any thresholds are to be understood as reporting thresholds only, not 'relevance' thresholds as per setting permit conditions pursuant to Article 14(1).

Doing so will automatically trigger the obligation for Member States to set emissions limit values at source for the relevant point source activities under the IED as per Article 14(1) of the IED. If the pollutant is considered as not relevant (not used/produced) or not detectable this means that no further pollution prevention measures nor reporting requirements would be required at those sources. Listing PFAS as a group to Annex II of the IEP-R is the first necessary and immediate step needed for ensuring a cost-effective approach on pollution prevention. It is also proportionate considering that the legal framework apply to the largest scale EU pollution point sources. It is more cost-effective to prevent pollution to be emitted in the environment or humans in the first place, decontamination is technically and economically unfeasible for many cases.

¹² A 2021 report from the Research Institute of the Dutch Waterboards (STOWA) in collaboration with the Dutch Ministry of Infrastructure and Water Management "PFAS in influent, effluent and sewage sludge results of a monitoring campaign at eight WWTPs" on municipal and industry wastewater treatment facilities refers to detection limits set at 0.25-1 ng/l based on the analytical method comparable to ISO21675 (2019)

<https://www.stowa.nl/sites/default/files/assets/PUBLICATIES/Publicaties%202021/STOWA%202021-46E%20PFAS%20Engels.pdf>

¹³ See notably here <https://www.ospar.org/documents?v=59492>

¹⁴ See EEB June 2022 briefing 'Consequences of Annex II loss – Laxer permitting due to the new Industrial Emissions Directive?' <https://eipie.eu/wp-content/uploads/2022/06/Annex-II-loss-IED-briefing.pdf>