EEB input to: IED review Targeted Stakeholder Survey by RICARDO

Content

1 Problem 1: The environment is polluted

1.1 Zero pollution ambition

1.1.1 Not all agro-industrial activities that are polluting the environment are covered by the IED

Introducing additional (agro-)industrial activities in the scope of the IED

1. **In addition to intensive farming, mining industries, upstream oil and gas industries, battery production, disposal and recovery, ship building and dismantling are you aware of major environmental pressures from other (agro-)industrial activity in the EU and currently outside the scope of the IED?** [Yes; No] If yes, specify the activity, the relevant environmental pressures and an estimate of the potential for the IED to reduce them [open text response].

The EEB position is that the scope needs to be redesigned more broadly. The current scope has been set back in 1996 and could be explained on the basis of an approach of limiting environmental impacts from the "most damaging" industrial activities. Example: currently for energy industries, the scope is listing sub-activities from highly polluting (fossil based) energy industries, including thermal combustion plants above a certain thermal capacity threshold, instead of defining BAT on how to produce in the best way energy (electricity, heat or mechanical energy).

Positive scope setup examples refer to textiles production or food and drink production which enables a broader approach as to the wider life cycle impacts of that activity or options to consider on how to best deliver that product/service.

The current scope formulation (Annex I of the IED) is one of the major shortcomings in terms of limited approach taken to define BAT for the industrial activities addressed and therefore the effectiveness of the IED to set the standard for "clean and sustainable production" within the new zero pollution ambition. Those limitations are based on political reasons (certain Member States and industry do not like to be restricted in how they may conduct an industrial activity). Due to the scale of urgency of actions required and long investment cycles, it is no longer acceptable to promote incremental improvements only when a faster and deeper transition is required.

Proposal: *The scope must be redesigned to enable setting BAT as the lowest ratio 'environmental impact of industrial activity' versus 'public good/service provided'. This should apply to activities where there are competing solutions with various envious environmental and human health footprints (as the considerations listed in the BAT Criteria of Annex III)*

The Commission should prioritise the following items: energy production / conservation, water quality and supply services, protein production / other foods and drinks, resource management, substitution of chemicals of concern, soil remediation/ fertility (see previous TSS input). This approach aims to focus on those industrial activities considered as providing "essential" services, this approach enables to review the fundamentals of the economic model and to transition towards a sustainable model [see notably the "System Change Compass" https://www.systemiq.earth/wp-content/uploads/2020/11/System-Change-Compass-full-report_final.pdf *see page 42 and following*]

All options need to be compatibility checked against the BAT criteria. This approach would also enable to move beyond installation focus or boundaries and take a so called 'value chain approach" which would enable the IED to play a stronger role on the identified focus areas in particular for Toxic Free Environment, Circular Economy aspects since improvements should be made in all life cycle stages of a given industrial activity and not a limited step in the production chain. This would enable to also assess

more environmentally friendly processes and "industrial symbiosis" applications. The "installation boundary" approach is rather a legal limitation directly resulting from the scope setup of the IED.

It is therefore not sufficient to lower thresholds of a harmful activity (output threshold, boiler size etc.) even if that would potentially yield benefits, but bigger impacts can be achieved if the scope is set in such a way that various alternatives and options of a given industrial activity can be compared against the common BAT criteria.
See previous inputs:
-section 2.4. http://bit.ly/3aKUIUT
- section 1.5/2 https://bit.ly/3bAXU4F (section 1.5/2)

The term of "Zero Pollution Ambition" needs to be defined as to the scale of ambition required within a given timeline, we could not find related questions on this aspect so would like to raise the following: (extracts from the EEB submission to the COM roadmap for a Zero-Pollution Action Plan (ZPAP) of 29 October 2020 https://eeb.org/library/eeb-feedback-to-the-zero-pollution-action-plan-roadmap/

When developing the Zero-Pollution Action (and defining Ambition), it is fundamental to keep in mind what are the overall objectives that EU legislation and actions must deliver on. TFEU art. 191 (1) lists them:
'Union policy on the environment shall contribute to pursuit of the following objectives:
-preserving, protecting and improving the quality of the environment,
-protecting human health,
-prudent and rational utilisation of natural resources,
-promoting measures at international level to deal with regional or worldwide environmental problems, and in particular combating climate change'.

Annex III of the IED is almost aligned to all those principles but not in full, similarly the subject matter of the IED (Article 2) could be extended to those points *(see also similar points made in Q108)*

Next to the identification of EU overall objectives, the TFEU also defines what are the key principles guiding the EU in its actions towards achieving those objectives; those are:

- transparency,
- the precautionary principle,
- the pollution-prevention principle, the principle that environmental damage should as a priority be rectified at source, and the polluter-pays principle.

The revised IED should regard these principles as essential and non-negotiable and all stakeholders be bound through a "green oath" to maximise compliance with them throughout the co-decision and implementation phase, irrespective of whether this relates to the Seville Process or permitting and enforcement.

Those principles should translate to concrete actions and adapted working procedures e.g.:
Transparency: through accessible decision-making processes (e.g. webstream and publish vote by Member State in the Comitology committees); by making information on pollution available and easily usable (e.g. merging existing databases on chemicals production, use, emissions and monitoring data; ensuring a user friendly and effective PRTR; ensuring that air, water, soil quality and noise levels information are accessible, understandable and comparable);
Precautionary principle: by anticipating protective actions in case a risk cannot be determined with sufficient certainty, to protect the environment and people's health (e.g. not allowing a product or a substance in the market, or a process to be undertaken, until the corresponding risk has been fully assessed and determined);

Pollution prevention principle: preventing pollution by acting at source (e.g. establishing legally binding standards for avoiding pollution by any production process or product use, coherently framing source regulating policies and laws which are to be considered complementary to water, air and any other quality standard);
Polluter-pays principle: by keeping polluters accountable (e.g. develop economic instruments to incentivise pollution reduction and penalise pollution production; require 0.1% levy on profits made by any polluting industrial sector, including chemicals, industrial farming, internal combustion engines automotive, fossil fuels energy production); making sure water taxes and tariffs reflect the polluter/ user pays principle; ensure that pollution monitoring and remediation costs are paid by polluters); ensure that EU authorities and agencies have the required funds to monitor, regulate and manage pollution

The IED sets a good starting point as to a meaningful definition of "pollution" that is aligned to the Zero Pollution Ambition. 'pollution' is defined in Art. 3 (2) IED : 'pollution' *means the direct or indirect introduction, as a result of human activity, of substances, vibrations, heat or noise into air, water or land which may be harmful to human health or the quality of the environment, result in damage to material property, or impair or interfere with amenities and other legitimate uses of the environment*;

This definition implies that any form of impact from substances, vibrations, heat or noise (be it intentional or unintentional) that may either be harmful to human health or the quality of the environment, even if it is merely "impairing or interfering with amenities" of the environment, is considered as a pollution.

There are already some approaches in the EU legislation that aim to result in zero pollution for example the obligation to phase out priority hazardous substances under the Water Framework Directive or Substances of Very High Concern (SVHC) under REACH Regulation. Whilst it is clear that prevention is always to be prioritised over pollution reduction, the IED can further strengthen those approaches and with a clear action plan type of provisions.
There has also been a short-sighted and non-IED compliant habit or perception that the IED would only focus on emissions (releases) from the industrial installation and not address pollution throughout the lifecycle of the industrial activity (for most cases this is due to inadequate Annex I scope design) but also to other bottlenecks mentioned lateron throughout this survey.

The revised IED framework should therefore provide stronger framing to address -through BAT- upstream and downstream impacts from a given activity, beyond the installation scope boundaries.

The EEB regards to zero-pollution ambition as a global scale ambition, therefore considering the impacts of the EU's way of life, its policies and global actions; specifically looking at how trade and standards of imported and exported chemicals and products are contributing to pollution and ensuring that it is tackled accordingly (see link with 8th EAP proposal objectives).

Green Deal commitments relevant to Zero Pollution emphasize those goals and highlight the following objectives to be achieved through the Zero-Pollution action Plan:
-Creating a toxic-free environment through more action to prevent pollution from being generated as well as measures to clean and remedy it (Chemicals Strategy for Sustainability);
-Protect citizens and the environment better against hazardous chemicals and encourage innovation for the development of safe and sustainable alternatives (Chemicals Strategy for Sustainability);
-Restoring the natural functions of ground and surface water. This is essential to preserve and restore biodiversity in lakes, rivers, wetlands and estuaries, and to prevent and limit damage from floods;
-The risk and use of chemical pesticides is to be reduced by 50% and the use of more hazardous pesticides is reduced by 50% (Biodiversity and 'Farm to Fork Strategies);

-The losses of nutrients from fertilisers are reduced by 50%, resulting in the reduction of the use of fertilisers by at least 20% (Biodiversity and 'Farm to Fork Strategies);
-Significant progress to be made in the remediation of contaminated soil sites (Biodiversity Strategy);
-Source measures to address pollution from urban runoff, harmful sources of pollution such as micro plastics, chemicals (including pharmaceuticals) and combination effects;
-Achieve cleaner air, including the revision of air quality standards to align them more closely with the WHO recommendations; strengthening provisions on monitoring, modelling and air quality plans to help local authorities achieve cleaner air and reducing ozone concentrations and emissions through the Methane Strategy;
-Address pollution from industrial installation overall (notably via the strengthened IED / Seveso III) also to make it fully consistent with climate, energy and circular economy policies and improve prevention of industrial accidents;
-A clean and circular economy (Circular Economy Action Plan and Chemicals Strategy for Sustainability).
The ZPAP, and its objectives, are directly connected to the Toxic-Free Environment Goal, as well as the goal to achieve a decarbonised, circular and restorative zero-pollution economy (see also 8th EAP proposal). They are also connected to other key European Green Deal's initiatives, including: the Biodiversity Strategy, the Farm to Fork Strategy, the Chemicals Strategy for Sustainability, the Renovation Wave Strategy, the Methane Strategy, the Industrial Strategy, the Smart Mobility Strategy, the Beating Cancer Action Plan and the climate neutrality objective. The ZPA should therefore set out the guiding framework on concrete meanings and scope of the objectives set, decision-tree and criteria to apply for shaping the "action plan" as well as necessary monitoring, benchmarking and enforcement frameworks so as to deliver on the "zero pollution" ambition in the most holistic and coherent way.
The IED review should be a test case for putting the zero-pollution ambition into practice.

The EEB therefore suggests taking a 'zero pollution hierarchy of actions' approach. This approach will ensure that precaution and prevention are prioritised over elimination and substitution; which are as well priorities over control and reduction measures. Remediation and restoration actions are considered as the last possible step to take. This is approach is very well aligned to the spirit of the IPPC/IED approach.
For more information relating to the need of clear timetables, targets and initiatives please refer to the EEB position (page 4 and following) https://mk0eeborgicuypctuf7e.kinstacdn.com/wp-content/uploads/2020/11/EEB-feedback-to-the-ZPAP-roadmap.pdf

More 'industry sector' specific comments:

- **Intensive types of poultry and pigs rearing** are listed, which is an unsustainable model. The EEB calls for a shift to more diversified farming systems, intensive livestock farming is per se not sustainable and therefore we propose the livestock density and execration factors e.g. N and P (which were considered in the previous IPPC Recast review) as the better factor to consider. The thresholds set for the intensive pigs and poultry rearing activities are quite arbitrary. Further methane / ammonia emissions from agriculture are significant (54% and 93% respectively based on latest available (2018) EEA data). Some of those emissions are only addressed in the IED if these are occurring "on site", which however often occurs "off-site" in the case of manure spreading. A more tailored approach as to livestock and farming practices is needed. There is no reason to exclude aquaculture (covered by E-PRTR) nor Cattle (the largest methane emission source in the EU) and further it may be not a forward-looking BAT to dismiss other much less environmental impacting alternatives to protein production e.g.

such as insects rearing. The IED scope should therefore reflect this need for a change in intensive livestock farming to sustainable protein / meat production methods. Linked to previous point on scope boundaries it is irrelevant to the environment if the manure spreading is occurring offsite or onsite, in both cases the manure originates from an activity covered by the IED and the operator should be bound through an extended producer liability scheme to also deal with the waste phase impacts of its activity (see Q17 and 18)

See further points on aquaculture in the other Questions (notably Q3), the EEB supports inclusion.

- **inclusion of asphalting plants:** Stationary asphalting plants generate air (including odour and noise) emissions and generate other negative environmental impacts also largely due to the fossil input fuels used but are not included. Crushing plants for concrete and other mineral (construction) waste release a considerable amount of dust [see support material reference doc# X in attachment].

- **inclusion of Crushing plants for concrete and other mineral (construction) waste**

Those activities generate a considerable amount of dust. Neither the processing of mineral waste is classified as 'hazardous' nor the processing of 'non-hazardous' mineral waste is listed in Annex I of the IED. However, some of the crushed mineral waste has to be classified as hazardous waste due to its content of heavy metals and/or organic compounds but would probably not reach the high thresholds set. Accordingly, toxic pollutants and/or CMR-pollutants are released with the dust especially during the processing of such waste. The shredding of metal waste and the preparation of waste for thermal recovery is included under the IED, but not the treatment of mineral waste, even if the environmental relevance of these sectors should be of the same order of magnitude see support material reference [see support material reference in doc# X].

- **remove the differentiation of Activities Annex I. 5.1 / replace by "resource management" heading.** The term of "waste" management should be replaced by "residues management", with a cascading of solutions ranking in terms of the Waste Hierarchy, material recycling and re-use shall always take precedence over (energy recovery/disposal options e.g. 'waste' incineration. Further, we are aware that some Member States read the chapeau inclusion in relation to disposal or recovery of hazardous wastes of a capacity >10tonnes/day in conjunction with activities listed under items (a) to (k). Whilst the IED refers to involving either of those activities and may be read as an illustration, some MS regard this as a "closed" and exhaustive list. In order to not exclude other activities involving disposal or recovery of hazardous waste the proposal is to rather delete the list or clarify that this is a minimal illustrative (open list). The same consideration should apply to non-hazardous waste activities (Section 5.3 (a)). Double exclusions should be prevented. For both cases the threshold is too high and should be reconsidered.

- **inclusion of data centres**

Data centres are huge energy consumers (the average is estimated at 13GWh but it can go up to 500GWh), waste heat could be recovered for district heating purposes (see Helsinki). An UK study [reference needed https://www.independent.co.uk/climate-change/news/global-warming-data-centres-to-consume-three-times-as-much-energy-in-next-decade-experts-

warn-a6830086.html] reports that 416 Terawatt hours of electricity were used for the data centres, which is significantly higher than the total electricity consumption of the UK. The Energy Efficiency BREF does not cover those activities, with the "digitalisation" push by the European Commission, the impacts of the increased use of data centres is to be addressed and properly anticipated.

- **Inclusion of mining activities** (selective approach) - **include landfill mining activities**
  Environmental impacts from mining are not covered by the IED. In the case of hardcoal mining those are a significant source of methane emissions untackled, like landfills, open cast mining is also source of many environmental impacts (water quality and availability, dust emissions etc). The IED could play a role to mitigate impacts from those activities such as current practice of not sealing mines, venting or flaring of methane but should not be used as a pretext to set 'BAT" on unsustainable mining activities such as coal or lignite mining. Instead, the IED could set requirements as to an organised and sound transition to phasing out coal/lignite mining activities and to establish BAT as to proper liability regimes and restoration of those mines, notably in relation to soil and water protection including methane or other environmental impacts. Further occupational health and safety criteria are to be considered. On the other hand, it would be useful to include other mining activities in the IED that are relevant to a zero-pollution ambition world such as rare earth mining needed for batteries production or Photovoltaics panels or other "essential services" where there is an overriding environmental benefit relying of the use and hence the mining of those minerals/products. The IED could also et a resource use hierarchy as to landfill mining and setting BAT to that end.

- **redraft Activity 4.4.: production of pesticides or biocides**. This activity entry should be replaced by "sustainable integrated pest management". This way various options to protect crops – which would be more compatible with ensuring "a high level of protection for the environment as a whole" and with protecting human health than the chemical solutions designed to kill – would be compared as well.
- **production of asbestos is still listed in Annex I (3.2), this activity should be clearly prohibited** due to the obvious negative health impacts it caused, further there is no asbestos production in the EU.
- **redraft scope 1.4 (gasification and liquefaction).** First we question any role for coal gasification under the new IED. Further point b refers to a threshold set for "other fuels" if this exceeds 20MWth. It is unclear where this threshold comes from, there are indications of high interest by chemical industry to gasify plastics for the reason of CCU promotion. The IED needs to cover those type of activities, which could also be further addressed under an extension and refinement of section 6.9 on carbon capture, use and storage.

  Both gasification and pyrolysis plants are considered within the scope of Chapter IV (IED Article 42) - Waste incineration- while pyrolysis is not explicitly listed under Annex I activities. This results in uncertainty regarding which plant categories are within the scope of the IED. We would support the option to streamline the provision of the various chapters of the IED regarding gasification and pyrolysis plants. This would be helpful with regard to clarity on the distinction between various waste treatment options and prioritisation from an efficiency perspective. By lowering thresholds for pyrolysis and gasification under Annex I with regard to

production capacities or outputs, at the level of activities 5.2-5.3, the IED can support reduction in harmful industrial emissions across the EU.

2. For some of the (agro-)industrial activities under review, more information is needed to establish the current state of play and significance of environmental pressures in the EU and potential pollution reductions if IED provisions were introduced.

A How significant are the environmental pressures from the following (agro-)industrial activities? For each of the following activities in your area of experience, use the dropdown menu to rate the significance of the environmental pressures. [Rate as follows: Significant; Moderate; Slight; No impact; Do not know; Not applicable].

- Intensive cattle farms

- → *Emissions to air* ***Significant***
- → *Emissions to water* ***Significant***
- → *Emissions to soil* ***Significant***
- → *GHG emissions* ***Significant***
- → *Energy use moderate*
- → *Water use Significant*
- → *Other resources/ materials use Significant*
- → *Waste generation Significant*
- → *Other human health impacts: pathogens (E coli etc) and antimicrobial resistance and emerging pollutants (drug residues, hormones and feed additives). Deforestation (imported soy feedstock. Energy use depends on type of cattle rearing – e.g. high in case of milk production and whether open field rearing).*

- Intensive mixed livestock farms

- → *Emissions to air Significant*
- → *Emissions to water Significant*
- → *Emissions to soil Significant*
- → *GHG emissions Significant*
- → *Energy use Significant*
- → *Water use Significant*
- → *Other resources/ materials use Significant*
- → *Waste generation*
- → *Other : human health impacts: pathogens (E coli etc) and antimicrobial resistance and emerging pollutants (drug residues, hormones and feed additives).*

- Intensive aquaculture

- → *Emissions to air Slight to moderate?*
- → *Emissions to water Significant*
- → *Emissions to soil Slight to moderate?*
- → *GHG emissions Significant*
- → *Energy use Slight? Slight to moderate?*
- → *Significant*
- → *Other resources/ materials use* Do not know
- → *Waste generation* Do not know
- → *Other [marine ecosystem impacts / freshwater balance for land-based aquaculture]*

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- Mining/ quarrying industries

- → *Emissions to air (significant) [diffuse dust emissions]*
- → *Emissions to water Significant*
- → *Emissions to soil Significant*
- → *GHG emissions Significant*
- → *Energy use* Do not know
- → *Water use Significant*
- → *Other resources/ materials use Significant*
- → *Waste generation Significant*
- → *Other [Landslides, soil erosion, major accidents risk in case of tailing ponds. Currently methane from deep coal mining are calculated and underreported but still rank #2 after landfilling, where flared other air pollution emissions arise. Diffuse dust emissions from lignite mining is not reported currently.]*

- Upstream oil and gas industries

- → *Emissions to air [significant]*
- → *Emissions to water significant]*
- → *Emissions to soil dont know)*
- → *GHG emissions [significant]*
- → *Energy use significant]*
- → *Water use dont know)*
- → *Other resources/ materials use dont know)*
- → *Waste generation dont know)*
- → *Other [major accidents hazards due to storage and transport - spills. The oil and gas industry is responsible for large amount of environmental damages in the downstream phase of the products used, e.g. health impacts from petro-chemical products including plastics and air pollution (combustion of fossil fuels) besides fuelling climate change]*

- Battery production

- → *Emissions to air dont know)*
- → *Emissions to water [significant]*
- → *Emissions to soil dont know)*
- → *GHG emissions dont know)*
- → *Energy use [significant]*
- → *Water use dont know)*
- → *Other resources/ materials use (significant)*
- → *Waste generation (significant)*
- → *Other [use of hazardous chemicals and possible spills from lithium / cobalt mining and processing / waste phase impacts]*

- Battery disposal and recovery

- → *Emissions to air (slight)*
- → *Emissions to water (moderate)*
- → *Emissions to soil (significant)*
- → *GHG emissions (moderate)*
- → *Energy use (significant)*
- → *Water use (dont know)*
- → *Other resources/ materials use (significant)*

- → *Waste generation (moderate)*
- → *Other [significant raw material use / chemicals* https://www.transportenvironment.org/publications/batteries-vs-oil-comparison-raw-material-needs - ie 30kg per car when a battery is recycled*]*

- Downstream ferrous metal processing activities: forging presses, cold rolling and wire drawing

- → *Emissions to air [significant]*
- → *Emissions to water [do not know]*
- → *Emissions to soil [do not know]*
- → *GHG emissions [do not know]*
- → *Energy use [significant]*
- → *Water use [do not know]*
- → *Other resources/ materials use [do not know]*
- → *Waste generation [do not know]*
- → *Other [noise]*

- Ship building (other than coating) and dismantling

- → *Emissions to air [significant]*
- → *Emissions to water [significant]*
- → *Emissions to soil [significant]*
- → *GHG emissions [significant]*
- → *Energy use [significant]*
- → *Water use [do not know]*
- → *Other resources/ materials use [significant]*
- → *Waste generation [significant]*
- → *Other [asbestos decontamination is relevant to old ships only, prior to asbestos bans being correctly enforced. Ship building is mainly relevant for the material input share but also for setting standards and type of propulsion (air pollution), impacts are significant due to those aspects of ship building design and its subsequent operation]*

- Other (as specified in question 1)

- → *Emissions to air*
- → *Emissions to water*
- → *Emissions to soil*
- → *GHG emissions*
- → *Energy use*
- → *Water use*
- → *Other resources/ materials use*
- → *Waste generation*
- → *Other*

If you have referred to an "Other" environmental pressure, please specify. [open text response]

[The EEB provides in attachment additional material on certain sectors relating to scope redesign considerations: asphalting plants, construction waste treatment].

We deem it as very important that the significance of impacts should cover all the life cycle phases of the considered industrial activity, including diffuse emissions from outputs, and not just sub-phases of that activity. E.g. for ship construction the design/choice of propulsion will influence most of the use

phase impacts (air pollution, GHG emissions) whilst material inputs are relevant for the production and end of life phase only.

Similar considerations apply to the proposal for inclusion of 'upstream' oil and gas industries. We believe the downstream impacts need to be covered as well: the oil and gas industry is responsible for large number of environmental damages in the downstream phase of the products used, e.g. health impacts from petrochemical products and air pollution (combustion of fossil fuels) besides fuelling climate change. The IED needs to be internally consistent to deliver on the carbon neutrality of industrial activities, it may therefore be at odds to include oil and gas industries and to even define "BAT" justifying further extraction of fossil fuels. Similar considerations are valid for nuclear energy (hazardous waste, major accidents considerations).

This is why the EEB proposed a re-design of the scope (see Q1). The current setup of the TSS (tick box approach) does not allow to differentiate on whether the significance rating is intended to cover as well upstream or downstream impacts of that given activity, we hope to provide further evidence and clarification during the dedicated virtual workshop sessions ahead of the summer break.

B If you have answered "significant" above, by how much could the environmental pressure/ pollution be reduced for the following (agro-)industrial activities, and by environmental pressure/ pollutant group, if IED provisions, were introduced? For each of the following activities in your area of experience, use the dropdown menu to rate the potential reduction in environmental pressure/ pollution. [Rate as follows: Significant, >15% reduction; Moderate, 5% -15% reduction; Slight, <5% reduction; No impact; Do not know; Not applicable].

- Intensive cattle farms

- → *Emissions to air* Significant
- → *Emissions to water* *Significant*
- → *Emissions to soil* Significant
- → *GHG emissions* Significant
- → *Energy use [do not know]*
- → *Water use [do not know]*
- → *Other resources/ materials use* Significant
- → *Waste generation* *Significant*
- → *Other [Significance depends on nature and origin of feed material, input chemicals (e.g. pharma) and type of rearing (in house, open field - organic) and the density of livestock, how manure is handled.]*

- Intensive mixed livestock farms

- → *Emissions to air* Significant
- → *Emissions to water* Significant
- → *Emissions to soil* Significant
- → *GHG emissions* Significant
- → *Energy use* Significant
- → *Water use* Significant
- → *Other resources/ materials use* Significant
- → *Waste generation* Significant
- → *Other [Significance depends on nature and origin of feed material, input chemicals (e.g. pharma) and type of rearing (in house, open field - organic) and the density of lifestock, how manure is handled.]*

- Intensive aquaculture

- → *Emissions to air [do not know]*
- → *Emissions to water* Significant
- → *Emissions to soil* Significant
- → *GHG emissions [do not know]*
- → *Energy use [do not know]*
- → *Water use [do not know]*
- → *Other resources/ materials use [do not know]*
- → *Waste generation [do not know]*
- → *Other [depending on feed material, other effects on aquatic life due to pharma products, growth promoters. The Norwegian PRTR provides a good information basis on legal requirements applicable to aquaculture https://www.norskeutslipp.no/en/Lists/Virksomheter-med-utslippstillatelser/?s=200&SectorID=90 , emission release information is available for the transformation of fish/seafood products see here https://www.norskeutslipp.no/en/Lists/Virksomheter-med-utslippstillatelser/?s=600&SectorID=90&t=Fiskeforedling http://bellona.org/news/renewable-energy/bioenergy/2017-10-the-great-blue-bellona-solutions-for-sustainable-aquaculture]*

- Mining/ quarrying industries

- → *Emissions to air* Significant
- → *Emissions to water* Significant
- → *Emissions to soil* Significant
- → *GHG emissions* Significant
- → *Energy use* Significant
- → *Water use* Significant
- → *Other resources/ materials use* Significant
- → *Waste generation* Significant
- → *Other [a ban of coal and lignite mining could deliver significant benefits to various EU policy acquis objectives: in particular air, climate, water. For others this is too case by case and depends of type of mining activities concerned.*

  Urban/landfill mining offers significant potential to close the material loop and contribute to circular economy objectives, whilst also reducing the strategic vulnerability of material supply of EU]

- Upstream oil and gas industries

- → *Emissions to air significant*
- → *Emissions to water significant*
- → *Emissions to soil significant*
- → *GHG emissions significant*
- → *Energy use significant*
- → *Water use*
- → *Other resources/ materials use significant*
- → *Waste generation*
- → *Other [The oil and gas industry is responsible for significant amount (and scale) of environmental damages in the downstream phase of the products used, e.g. health impacts*

from petrochemical products and air pollution (combustion of fossil fuels) besides fuelling climate change]

- Battery production

- → *Emissions to air*
- → *Emissions to water*
- → *Emissions to soil*
- → *GHG emissions*
- → *Energy use significant*
- → *Water use significant*
- → *Other resources/ materials use significant*
- → *Waste generation significant*
- → *Other*

- Battery disposal and recovery

- → *Emissions to air*
- → *Emissions to water significant*
- → *Emissions to soil significant*
- → *GHG emissions significant*
- → *Energy use significant*
- → *Water use*
- → *Other resources/ materials use significant*
- → *Waste generation significant*
- → *Other*

- Downstream ferrous metal processing activities: forging presses, cold rolling and wire drawing

- → *Emissions to air*
- → *Emissions to water*
- → *Emissions to soil*
- → *GHG emissions significant*
- → *Energy use significant*
- → *Water use*
- → *Other resources/ materials use*
- → *Waste generation*
- → *Other*

- Ship building (other than coating) and dismantling

- → *Emissions to air significant*
- → *Emissions to water significant*
- → *Emissions to soil*
- → *GHG emissions significant*
- → *Energy use significant*
- → *Water use*
- → *Other resources/ materials use significant*
- → *Waste generation significant*
- → *Other*

- Other (as specified in question 1)

- → *Emissions to air significant*
- → *Emissions to water significant*
- → *Emissions to soil significant*
- → *GHG emissions significant*
- → *Energy use significant*
- → *Water use significant*
- → *Other resources/ materials use significant*
- → *Waste generation significant*
- → *Other significant*

Please provide further information including e.g. identification of specific substances and the scale of their likely reduction [

We would like to highlight the need to list GHG in the IED so to ensure significant reduction potential is achieved throughout all IED activities and to ensure that the IED delivers also on the carbon neutrality objective / delivers on climate protection, see notably this briefing http://eipie.eu/storage/files/A_New_Industry_Framework_For_Achieving_the_EU_Green_Deal_Zero_Pollution_Goal.pdf and input to section 3.

Again, this depends on the scope design (see Q1).

This assessment should also cover a gap assessment in relation to other EU policy instruments that do not achieve the zero-pollution ambition in a time effective and coherent manner.

We also want to highlight that we expect EU industry to deliver on the Zero Pollution Ambition beyond geographical scope of the EU i.e. we expect substitution efforts of chemicals of concern to also concern chemicals produced for export. That concerns notably the use or production of Ozone depleting substances or with global warming potential (F-Gases) to also cover the use phases, irrespective on whether this occurs outside the EU (see Section 3), same for biocides and pesticides. This point is related to the need of the IED to cover the impacts from the use phase of industrial production outputs (e.g. diffuse emissions from products).

3. **Where available, provide references to and/or upload relevant studies with supporting evidence for the environmental pressures and potential reductions rated as significant or moderate,** [open text response]

Further information (not yet mentioned under "other previously"

- **General (air pollution) – energy generation:**

Study ETC/ATNI Report 04/2020: "Costs of air pollution from European industrial facilities 2008–2017." https://www.eionet.europa.eu/etcs/etc-atni/products/etc-atni-reports/etc-atni-report-04-2020-costs-of-air-pollution-from-european-industrial-facilities-200820132017

Excerpt from the summary: "The aggregated cost of damage over the period 2008–2017 caused by emissions reported from E-PRTR industrial facilities is estimated to amount to a range from 415 to 749 billion € (€2019) in 2008 and from 277 to 433 billion € (€2019) in 2017 (Table 1). Estimated damage has thus decreased over the period. Damage costs from the main air pollutants are reduced by 54% in 2017 relative to 2008. The reductions for damage from greenhouse gases, heavy metals and organic pollutants, respectively, are 19%, 43% and 60%. In the same period, the number of reporting facilities has remained relatively stable (11,137 in 2008 and 11,893 in 2017). Most of the quantified damage cost is caused by emissions of greenhouse gases and the main air pollutants. Damage cost estimates associated with heavy metal emissions and organic pollutants are significantly lower, but nevertheless contribute several millions of euros harm to health and the

environment." "In line with the results of earlier assessments, a limited number of facilities accounts for the major part of the damage. For example, in 2017, 211 facilities accounted for 50% of estimated damage from main air pollutants and greenhouse gases, 711 for 75% and 1,572 for 90% (Figure 3 and Figure 4). This corresponds to 1.8%, 6.1% and 13.5 %, respectively, in the total number of facilities (11,6554) having reported emissions from main air pollutants and greenhouse gases in 2017.

Section 30.2 highlights that within the top 30 highest damage costs facilities a large share is constituted by Large Combustion Plants (thermal), it also lists 4 iron and steel plants, one metal ore roasting or sintering installation and one installation processing ferrous metals + one chemical installation producing basic organic chemicals). Amongst the thermal power plants that are part of the top 30 E-PRTR facilities accounting for the highest absolute damage in 2017, according to information available on the internet, almost all use coal (facilities 1, 6, 8, 13, 16, 19, 20, 22, 26, 28) and/or lignite (2, 3, 4, 5, 7, 9, 10, 12, 14 & 15, 16, 23). Facility 16 uses additionally natural gas, facility 22 blast furnace gas and facility 28 uses biomass. Facility 24 uses only blast furnace gas and facility 27 only oil shale.

- **Livestock:**

  - SusProc document on farming https://susproc.jrc.ec.europa.eu/activities/emas/agri.html]

  - **Cattle:** electrical energy is used for milking, cooling, water heating and pumping, lighting, ventilation, air heating, electrical fencing, manure handling. Land use and deforestation - livestock is the world's largest user of land resources; grazing land and cropland for production of feed takes up almost 80% of all agricultural land (FAO). The water footprint of meat from beef cattle (15 400 m 3 /ton as a global average) is much larger than the footprints of meat from sheep (10 400 m 3 /ton), pig (6000m3 /ton), goat (5 500 m 3 /ton) or chicken (4 300 m 3 /ton). (Mekonnen, M.M. and Hoekstra, A.Y. (2010) The green, blue and grey water footprint of farm animals and animal products, Value of Water Research Report Series No.48)
  - **Aquaculture**: Emissions of GHG arise during production of raw materials used for feed for the fish (e.g. energy used by vessels that capture fish to produce fishmeal, and Nox emissions arising from crop cultivation), and during their subsequent processing and transportation. Aquaculture feed production requires energy, to grind and mix the raw materials, to make the pellets and to dry them. (Greenhouse gas emissions from aquaculture - A life cycle assessment of three Asian systems, FAO). Nutrient build-up in the case of open water aquaculture (cages) - eutrophication/ nitrification from non-consumed feed, faeces, dead fish etc. Nutrient build-up in the case of open water aquaculture (cages) - eutrophication/ nitrification from non-consumed feed, faeces, dead fish etc. The Institute of Marine Research in Norway published an annual report (Norwegian). This is an English study from 2015 that sums up risk factors from Norwegian salmon aquaculture: https://www.researchgate.net/publication/266672998_Risk_assessment_of_the_environmental_impact_of_Norwegian_Atlantic_salmon_farming
    The Norwegian PRTR provides a good information basis on legal requirements applicable to aquaculture https://www.norskeutslipp.no/en/Lists/Virksomheter-med-utslippstillatelser/?s=200&SectorID=90 , emission release information is available for the transformation of fish/seafood products see here https://www.norskeutslipp.no/en/Lists/Virksomheter-med-utslippstillatelser/?s=600&SectorID=90&t=Fiskeforedling http://bellona.org/news/renewable-energy/bioenergy/2017-10-the-great-blue-bellona-solutions-for-sustainable-aquaculture]
    Escapes of farmed species into the marine environment (made more likely by mismanagement, faulty net-pens or extreme weather events) can seriously destabilize local

ecosystems. At the same the time aquaculture relies on a steady stream of huge quantities of feed. The production of feed ingredients can have a considerable emissions footprint; many sectors of the aquaculture industry are heavily reliant on soy, palm and other intensively-grown crops with well-documented environmental impacts. In addition, feed ingredients can also be heavily reliant on wild-caught fish, which can in turn be responsible for emissions of their own, including fuel, discards, so-called "ghost gear" from fishing vessels, and chemicals, waste water and organic waste from vessels.

Conversely, the growth of land-based aquaculture is driven in part by a desire to reduce direct emissions into the marine environment, but should still be monitored within the directive. The simulation of a marine environment on land is energy and water-intensive. Land-based operators may still require feed and antibiotics and include additional chemical water treatments. Waste water from recirculating systems is discharged back into the marine environment, which can create a steady stream of environmentally damaging outputs, polluting soils, rivers and the ocean. The advantages of fish farms being regulated by the IED are that it would:

- Result in a better harmonization of regulations across Member States for granting aquaculture licenses

- Define common standards for limits on emissions associated with marine and land based aquaculture (e.g. use of antibiotics, use of chemicals and pesticides, escapees, water quality)

- Establish monitoring rules among all operators

- Harmonise sanctions in case of serious breaches of emissions limits

- Lead to an integrated EU aquaculture license, easier to control and monitor with a centralised database

- Simplify administrative procedures for operators / promote a level playing field for EU operators

- Assist in integrated spatial planning beyond strict Member State borders

- Support the delivery of the Farm to Fork Strategy's goals in relation to aquaculture (which include a significant increase in organic aquaculture)

- **Batteries:** https://eeb.org/library/enhancing-the-sustainability-of-batteries-ngo-position-paper/ check page 6-7
- **Asphalting / mineral crashing plants:** [See attachments]
- **Shipbuilding/demolition:** Building and use (related to engines) https://www.transportenvironment.org/what-we-do/shipping-and-environment

  Waste phase https://shipbreakingplatform.org/issues-of-interest/why-ships-are-toxic/

Extending the production capacity thresholds for (agro-)industrial activities

Some activities fall below current production capacity thresholds set in the IED. Options are under consideration to reduce the current IED activity thresholds for:

- **Waste management - biological treatment:** Recovery of non-hazardous waste from biological treatment (IED Annex I activity 5.3(b)(i)) (to include certain activities with a capacity

of less than 75 tonnes per day with increased risk for emissions to soils, such as biogas production or manure processing plants)

• **Textiles:** Pre-treatment or dyeing of textile fibres or textiles (IED activity 6.2), to include textile finishing as well as activities below the current limit of treatment capacity (10 tonnes per day) to encompass a larger proportion of the sector's emissions and impacts, particularly from wastewater impacts.

• **Smitheries:** Reduction of IED capacity threshold for smitheries (IED activity 2.3b) from the current limit of 50 kilojoule per hammer and where the calorific power used exceeds 20 MW. This will encompass a larger proportion of the sector's emissions and impacts, particularly for releases to air.

• **Medium Combustion Plant:** Examine the scope of Chapter III - Large Combustion Plants (LCP), detailed under IED Article 28. Move the 20-50 MWth capacity threshold from the Medium Combustion Plant Directive (MCPD) (Directive (EU) 2015/2193) to LCP. The main driver for this revision is to align with the EU ETS scope threshold.

Updating BAT for landfills under IED

Currently the landfill directive provisions are deemed to constitute BAT (Art 1(2) of Directive 1999/31). Amendments are under consideration to:

• Allow adoption of BAT conclusions for landfills covered by the IED (IED Annex I activity 5.4). BAT conclusions would cover the key environmental issues for which BAT has evolved since the 1990s, including with regard to methane capture.

• Reduce the threshold for inclusion of landfills within the IED scope.

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9. For the (agro-)industrial activities that fall below the current IED production capacity thresholds, more information is needed to establish the current state of play and significance of environmental pressures in the EU. **How significant are the environmental pressures from the following (agro-)industrial activities below the current IED production capacity thresholds?** For each of the following activities in your area of experience, use the dropdown menu to rate how significant the environmental pressures are. [Rate as follows: Significant; Moderate; Slight; No impact; Do not know; Not applicable].

- *Waste management - biological treatment*

→ *Emissions to air* Significant
→ *Emissions to water* Significant
→ *Emissions to soil*
→ *GHG emissions* Significant
→ *Energy use*
→ *Water use*
→ *Other resources/ materials use*
→ *Waste generation*
→ *Other:* Significant *ODOUR - SOIL (contaminants of manure) -> EEB supports the lowering of the threshold. Water emissions occur due to digestate handling and manure application (e.g. Nitrates)*

- *Textiles (pretreatment, dyeing and finishing)*

→ *Emissions to air Moderate*

- → *Emissions to water Significant*
- → *Emissions to soil Slight*
- → *GHG emissions Slight*
- → *Energy use Moderate*
- → *Water use Significant*
- → *Other resources/ materials use Moderate*
- → *Waste generation Slight*
- → *Other*

- Smitheries

- → *Emissions to air*
- → *Emissions to water*
- → *Emissions to soil*
- → *GHG emissions*
- → *Energy use*
- → *Water use*
- → *Other resources/ materials use*
- → *Waste generation*
- → *Other : vibration / noise*

- Medium Combustion Plant

- → *Emissions to air*
- → *Emissions to water*
- → *Emissions to soil*
- → *GHG emissions*
- → *Energy use*
- → *Water use*
- → *Other resources/ materials use*
- → *Waste generation*
- → *Other : the threshold could be brought down to 1MWth as well, also consider all the exclusions from Chapter III (LCPs) and the LCP BREF / MCP Directive. See EEB comment to extend the scope to other types of energy generation, fossil fuel use to be phased out. A forward looking way for preventing air pollution - also to reduce water consumption because of cooling, is to switch to electrification, therefore a focus on reducing thermal power rating and "combustion" options is not a forward-looking approach.*

If you have referred to an "Other" environmental pressure, please specify. [open text response]

See related comment in Q1 about need for a scope redesign. To properly account for environmental pressures a full inputs/outputs assessment is necessary and to be rated against the useful service / product delivered by that industrial activity (This approach implies to move away from the "installation" approach but consider all options to provide the service/product - production methods).

- ***Landfill activities:** The EEB disagrees with the understanding of the Landfill Directive, dating back to 1999, claiming that its provisions constitute BAT. This provision has been adopted prior to the revision of the IPPC-Directive and the IED. Despite being listed in Section 5.4 of the IED, No BAT-C have yet been developed under the IED framework. By doing so the BAT-C shall aim to maximize the circular economy aspects, including via the development of upstream waste prevention and pre-treatment BAT, so to reduce resources (and untreated waste) being landfilled.*

Regarding the pre-treatment of waste, for example, even though there is an obligation for pre-treatment before landfilling, this obligation is not really specified.

Please see the IMPEL report: https://www.impel.eu/wp-content/uploads/2018/01/Report-on-Treatment-of-waste-before-landfilling-according-to-art.-6-of-the-Landfill-Directive.pdf

In 2014, the European Court of Justice (ECJ) needed to further clarify this obligation (please see the "Malagrotta judgement" - ECJ judgement of 15 October 2014 in case C323/13), where the ECJ ruled that the Malagrotta landfill (Rome, Italy) is in violation of EU landfill and waste management legislation. In the final judgement 4 principles about treatment of waste before landfilling, are confirmed and explicated:

1) All waste is pre-treated: pursuant to Article 6(a) of the Landfill Directive, all waste capable of undergoing pre-treatment must be pre-treated before it is placed in a landfill;

2) Most appropriate pre-treatment option is applied: Member States are not free to choose any pre-treatment whatsoever, but must search and implement the most appropriate pretreatment option in order to reduce as far as possible negative impacts on the environment and human health;

3) Adequate selection of waste streams: pre-treatment must at a minimum include an adequate minimum include an adequate selection of the different waste streams/fractions;

4) Stabilisation of the organic fraction: pre-treatment must at a minimum include the stabilisation of the organic fraction of waste.

Dedicated BAT conclusions would contribute to a better understanding and homogeneous implementation of such provisions across the EU and beyond.

Best resource management practices, as per the EMAS (SusProc) approach (see specifically the 'Best Environmental Management Practices for the Waste Management Sector": https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/best-environmental-management-practice-waste-management-sector, should also be transformed in binding BAT requirements. transformed in binding BAT requirements.

Furthermore, the focus should be on requirements for a max organic waste contents in what is landfilled (notably due to new EU obligation to separate collection of biowaste by 2023 (EU Waste Framework Directive 2018)), input controls, as well as methane capture, considering that the highest emission source of methane are landfills (source PRTR, with 48,4%, followed by hardcoal mining 38%).

- ***List of substances in Annex II*** This point is rather generic and is also mentioned in Q108 (omissions).

Annex II with the list of substances has not been reviewed since the IPPC Directive, even if the listing is taking a rather broad approach. The EEB has already provided comments as to which substances/pollutants are relevant for the BAT determination [see input to KEI determination study https://www.dropbox.com/s/rqh2pl298xba8vg/2017%2006%2009%20EEB%20input%20on%20EC%20study%20on%20preliminary%20KEI%20%20determination_FINAL.pdf?dl=0]

Notable illustrations for addition are the following: Annex III refers to all "hazardous" substances and hence links to CLP regulation. The IED should also systematically address all chemicals of "concern" (see www.subsport.eu/listoflists). This should also consider substances relevant to workers protection.

For the "water" compartment point 5 refers to "persistent hydrocarbons and persistent and bio-accumulable organic toxic substances". We question the validity of cumulative hazard criteria being applied, theses should be alternative criteria ("and' to be replaced by "or"). The current wording is likely inspired by the PBT concept in REACH Annex XIII. However, vPvB substances should also be added for consistency with REACH. Furthermore, substances with any of the following properties (persistency, mobility or toxicity) warrant caution and regarded as sufficient for hazard identification by many independent experts and it should be added as well e.g. PFAS, carbon-free polymers.

Referring only to the organic origin of the substances not its properties of harmful effects may also be too limitative, for instance to capture micro-pollutants that do not fall in another category. Further, no link is made to 'watch list' substances under the Water Framework Directive (new entries) nor other active pharmaceutical ingredients, other pollutants that do not possess rapid bio-elimination potential in water. The IED should also list relevant substances that are covered under Directive 2006/118/EC on the protection of groundwater against pollution and deterioration (Groundwater Directive) as well as those listed under the revised Drinking Water Directive 2020/2184. Stricter emission limits to water should be considered if the recipient is a drinking water source.

An inter-active link should therefore be made to other source or thematic legislation e.g. CLP/REACH, Water Framework Directive and the Drinking Water Directive, including for substances emitted to air that can affect water quality by atmospheric deposition.

For the air media we call for addition of GHG and substances with ozone depleting potential. Further substances may also be relevant to soil pollution (e.g. sewage sludge) or wider resource impacts and those environmental media need to be considered due to the integrated approach of the IED.

10. **Where available, provide and/ or upload references to relevant studies to provide evidence for the environmental pressures rated as significant or moderate.** [open text response]

See sources under previous questions/ E-PRTR but also other databases (US EPA TRI) https://www.epa.gov/toxics-release-inventory-tri-program/tri-data-and-tools

Regarding textile pre-treatment and finishing: questionnaire data from the ongoing BREF review contain information on treatment capacities. Of the plants indicating production capacity, 8% are below the current threshold of 10 t/d (despite the fact that they are not IED plants), and 28% of plants are between 10 and 20 t/d. This indicates that many textile plants are likely around the capacity threshold, and it appears pointless to exempt a plant at 9 t/d while regulating a plant at 11 t/d. A lower threshold, e.g. 1 t/d or 2 t/d would likely still capture a substantial part of the emissions.

A tailored permitting framework addressing the specificities of IED intensive livestock production installations

The setting up of a tailored regulatory permitting framework for emissions from intensive livestock production may allow the IED to be more effective and efficient in addressing the specificity of the intensive livestock production sector.

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17. **To what extent do you think a tailored regulatory permitting framework for intensive livestock production installations is needed?** [Significant need; Moderate; Slight; No need; Do not know; Not applicable]

In our understanding the meaning of "tailored regulatory permitting framework" shall mean that the IED will ensure that intensive livestock rearing cannot be considered as BAT and there will be a shift to more **diversified farming systems.** Permitting will therefore consider the livestock density and

execration factors e.g. N and P (which were considered in the previous IPPC Recast review) prior to permitting such activity.

Methane / ammonia emissions from agriculture are significant (54% and 93% respectively based on latest available (2018) data; EEA). it is irrelevant whether negative impacts occur "on site" or "off-site", similarly groundwater pollution due to nitrates (due to manure spreading) is occurring beyond the site boundaries. An extended producer liability scheme could address this issue.

A more tailored approach as to livestock and farming practices is therefore needed. The BAT assessment should also not dismiss other much less environmental impacting alternatives to protein production e.g. such as insects rearing. The IED scope should therefore reflect this need for a change in intensive livestock farming to sustainable protein / meat production methods. Further the EEB objects to many of the BAT conclusions set in the IRPP, notably the high levels on ammonia for pigs housing, time limits for manure incorporation in soils and insufficient considerations for animal welfare.
Considering the long time needed to review the IRPP BREF we would propose to propose a more tailored approach with dedicated minimal requirements to be set within the IED Safety net which is specifically targeting agriculture related impacts e.g. requiring the use of air pollution abatement techniques aligned to the strict BAT-AEL range, a mandatory density factor aligned to the carrying capacity of the soils and water quality, safeguard clauses that would prevent intensification of production for export and strong animal welfare safeguards. The EU Safety net should be closely aligned to the approach take in the SUsProc EMAS approach https://susproc.jrc.ec.europa.eu/activities/emas/agri.html making sure that the activity will deal with all LCA impacts arising from its activity.

18. **Where you think there is a significant or moderate need for a tailored regulatory permitting framework for intensive livestock production installations, please describe which specific aspects could be included in such a framework.** [open text response]

Please see Q17. Intensive animal rearing activities are industrial scale activities and therefore there is no justification for differentiated treatment compared to other industrial activities / operators.

There is a significant need to prevent the intensification of livestock rearing models and to force a transition to smaller scale, organic and local production methods considering all overall better options e.g. insects production, other protein production. The permitting regime should also consider the inputs (feed/intrants) and outputs (manure) much stronger, irrespective of whether this is in "direct" control of the operator or not; the new model should be built on an extended producer responsibility and due diligence scheme.

1.1.2 Ensuring that BAT-AELs: (a) are achieved in permits, and (b) ELVs in permits reflect the full improvement potential of BAT for the concerned installation

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(Agro-)industrial plants continue to pollute the environment. Whilst the IED has led to reductions of pollution from (agro-)industrial plants, BAT and their associated emission performance (BAT-AELs) may not always be achieved because:

- ELVs are often set in permits by default at the upper level of the BAT-AEL range, without consideration of whether BAT could lead to lower emissions closer to the lower end of the range

• Some industrial plants are granted Article 15(4) derogations from specific BAT-AELs, which leads to higher levels of emissions than required by BAT Conclusions. The use and approach to granting these derogations varies between Member States.

• Varying interpretations of how to set permit conditions in accordance with:

o IED Article 15(1) flexibilities (when setting permit conditions for indirect releases of polluting substances to water).

o IED Article 15(3) flexibilities (when setting different ELVs in permit conditions in terms of values, periods of time and reference conditions).

o IED Article 18 provisions (when setting stricter ELVs than those achievable by the use of BAT to meet environmental quality standards).

Building on the current approach (setting ELVs in permit conditions to achieve BAT performance), potential options are primarily focussed on amendments to the legal text (i.e. providing clarification and/ or introducing additional provisions).

Options currently under consideration include:

• The default option for setting ELVs in permits would be the lower limit of the BAT-AEL range, unless the operator demonstrates to the satisfaction of the competent authority that applying BAT techniques as described in BAT Conclusions only allows meeting a higher ELV within the BAT-AEL range.

• Tighten the conditions for applying derogations from BAT-AELs under Article 15(4) of the IED, with the potential for derogations to be time-limited (currently no end date needs to be specified for derogations granted).

• Develop a standardised mandatory methodology to assess the disproportionality between costs of implementation and environmental benefits with reference to Article 15(4) of the IED. This would then ensure that derogations are assessed equally across the EU.

• Implement a stricter regime to ensure that the indirect releases to water from an IED installation do not exceed the load that would be directly released should the installation apply BAT, e.g. by amending IED Article 15(1) (whereby currently the effect of a water treatment plant may be taken into account when determining ELVs).

• Delete the flexibility that allows setting different ELVs in permit conditions in terms of values, periods of time and reference conditions (IED Article 15(3[b]) or add to the provisions to clarify (two alternative measures to be developed in more detail).

• Tighten the provisions of Article 18 so that stricter ELVs (going beyond BAT) shall be set in permit conditions in the case that environmental quality standards are not met.

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21. **To what extent would the following options on setting permit conditions have an impact on the environment?** [Significant improvement; Moderate; Slight; No impact; Do not know; Not applicable]

- The default option for setting ELVs in permits would be the lower limit of the BAT-AEL range, unless the operator demonstrates to the satisfaction of the competent authority that applying BAT techniques as described in BAT Conclusions only allows meeting a higher ELV within the BAT-AEL range

- → *Emissions to air* significant improvement;
- → *Emissions to water* significant improvement;
- → *Emissions to soil s*ignificant improvement;
- → *GHG emissions not applicable*
- → *Energy use* do not know
- → *Water use* Do not know
- → *Other resources/ materials use* Do not know
- → *Waste generation*
- → *Other*

Obviously, the level of significance depends on the ambition level of the BREF concerned and whether the COM will make clear that the BAT-AEPLs are upgraded to equal legal status as the BAT-AELs, therefore we decided to answer "do not know".

Some items have been answered as "not applicable" because the BREFs do either not yet address the issue (GHG emissions), or "do not know" since some BREFs having only "indicative" BAT-AEPLs on energy use / water use or materials input or otherwise lack of qualitative BAT-AE(P)LS, there could be a significant impact if provisions are clarified for legal status of the BAT-AEPLs as well. Finally, for the BAT-AEPL it is the other way round, the upper level of the BAT-AEP/EL range correspond to the improved performance level.

See previous EEB position (targeted stakeholder survey http://eipie.eu/storage/files/EEB%20submission%20IED%20evaluation.rar), some highlights of missing BAT-C of existing BREFs:

-WGC BREF: energy efficiency as cross-cutting air pollution control

-STS BREF: the full substitution of CrVI

-LVOC BREF: substitution of the production of high concern chemicals

-FDM BREF: water, material and energy consumption (just indicative)

-LCP BREF: GHG emissions, biomass sourcing sustainability, coal phase out.

-WT BREF: further use of treated waste

-IRPP and SA BREF: animal welfare considerations ignored

-TXT BREF: group approach on chemicals of concern (water).

-All BREFs:

o GHG emission prevention / reduction

o Upstream pollution generated by use of certain fuels / materials

o Wider impacts on aquatic life, e.g. temperature impacts from waste water discharge to rivers. This has not been addressed in BREFs. E.g. since the Council Directive 78/659/EEC of 18 July 1978 on the quality of fresh waters needing protection or improvement in order to support fish life has been repealed, the IED should also cover the impacts of heated industrial wastewater emissions and the temperature limits.

o A link to "watch list" process under the Water Framework Directive and other substances with hazard properties.

o The IED and its BREFs does not systematically cover indirect discharge of emissions into water (i.e. either through downstream UWWTP or discharging through a tailings pond), as per approach followed e.g. in the WT and WI BREFs, so to take action to prevent the pollution at source. Otherwise the operators can "bypass" the emission limits for wastewater by adding another facility into the discharge drain.

The EEB position on the various options is further developed in each of the options mentioned under Q 21, however we stress that all those options need to be applied in combination to each other.

a) *require as a default compliance with the lower BAT-AEL range set for "new installations", where this is differentiated. For most BREFs where this differentiation is made (e.g. I&S, LCP) the strict BAT-AEL ranges are constituting the real BAT levels, since these are based on already technically and economically viable reference installations way ahead of the compliance deadline (for LCPS that is 11.5 years)*
   (see previous input by the EEB and also in the last Question as to the BAT-derivation methodology explaining why "new plants" BAT-AEL should be considered as appropriate reference)

The TSS text suggests: "The default option for setting ELVs in permits would be the lower limit of the BAT-AEL range, UNLESS the operator demonstrates to the satisfaction of the competent authority that applying BAT techniques as described in BAT Conclusions only allows meeting a higher ELV within the BAT-AEL range." It is not clear what is meant with "demonstrate to the satisfaction of the authority", this decision should not be left to the discretion of the competent authority due to potential bias and also should be subject to public participation (see other EEB suggestions on this count).

As to the comments made under the Art 18 link there seems to be a general deficit as to setting strict permit conditions. Either this is not well reported, or competent authorities hardly ever set stricter permit requirements. The IED registry data (December 2020 rev2) has 154,362 records; of those just 76 records indicate 'stricter permit conditions' for all reference years. That equals to 0,05% of the entries! This points to a general and systematic deficit in ambition level in permitting, not aimed to achieve a general high level of environmental protection but rather aligning to legal requirements (BAT-AEL range expectations).

b) *the options presented here need to be applied in combination to each other and not in alternative to each other.*
c) *a stronger link with EQS compliance is to be made systematic e.g. automatic triggering of stricter permit condition if a Member State is not on track to deliver on the EU Environmental protection acquis goals*
d) *a fundamental review of the BAT-C determination and governance structure of the Seville Process is needed so that the ambition level of the BAT-C is improved and hence its impact. See related Q in section 4 and the missing area (Q108)*

- Tighten the conditions for applying derogations from BAT-AELs under Article 15(4) of the IED, with the potential for derogations to be time-limited.

- → *Emissions to air Moderate*
- → *Emissions to water Moderate*
- → *Emissions to soil Moderate*
- → *GHG emissions n/a*
- → *Energy use n/a*
- → *Water use n/a*

- → *Other resources/ materials use n/a*
- → *Waste generation n/a*
- → *Other n/a*

See other answers to Q21 (combination of those policy options to consider)

Where the option is applied to keep the Art 15.4 derogation available, we insist to require that all the following conditions are met:

a) *Require a derogation procedure for any deviation from the stricter BAT-AE(P)Ls set for "new plants";*
b) *Mandatory quantification of likely impacts of various compliance scenarios against compliance with Environmental Quality Standards (effectiveness ratings), this could for instance include earlier shutdowns, reduced production outputs or operation on the basis of (equivalence in) environmental impact loads, the BAT derogation should not take a single pollutants approach but consider the impact of granting a derogation in the wider context of continuation of the industrial activity in question (see answer to related next option for CBA);*
c) *only cross-media impacts should be considered to allow derogations (e.g. higher concentration of pollutants in waste water stream at the expense of very high water recycling rates), this could consider the pollution loads of the installation and rate it against equivalent type of activities;*
d) *Automatic rejection if BAT / performance level is achieved in 3 or more installations, not necessarily operating in the EU;*
e) *Rejection of derogations where this relates to an emission of a substance that is subject to a phase out obligation e.g. Priority Hazardous Substances under the Water Framework Directive. (this is notably the case for industrial water pollutants such as mercury, cadmium; PAH and dioxins and furans;*
f) *Full trans-boundary impact assessment and pre-consultation with at least 3 independent techniques providers on the cost scenarios put forward by the applicant;*
g) *Mandatory public participation when all options for decisions are still open and full transparency on the justifications provided;*
h) *Derogations should not be allowed for "playing time" to catch up / defer retrofitting of plants unless there is a win-win situation in terms of public benefits which would justify a time extension. Maximum 4-5 years validity date of any derogation.*

Those criteria should be developed in an Annex to the IED and form integral binding part of the new approach in permitting.

Point h) (longer time) should only be considered for "deep transformation" of process changes that are either emerging techniques or would involve a complete replacement of the infrastructure. However, in this case a longer time planning for applying those techniques could be foreseen, it is not per se a derogation – see Climate chapter 2.

- Develop a standardised mandatory methodology to assess the disproportionality between costs of implementation and environmental benefits with reference to Article 15(4) of the IED.

- → *Emissions to air [significant]*
- → *Emissions to water [significant]*
- → *Emissions to soil [significant]*
- → *GHG emissions [significant]*

- → *Energy use [significant]*
- → *Water use [significant]*
- → *Other resources/ materials use [significant]*
- → *Waste generation [do not know]*
- → *Other : see other comments to Q21. We answered 'significant', however this will only be the case if the EEB proposals set out below are implemented.*

A current failure of setting ambitious BAT standards and failure in making the case of wider benefits (of pollution prevention) compared to costs for the operators at the implementation phase highlight a wider failure of implementation of externalised costs and hence the correct application of the polluter pays principle.

First, any derogation is "without prejudice to the compliance with Article 18 - the EQS objectives". The first level assessment should therefore exclude the possibility that a derogation may negatively affect the compliance with an EQS (see previous point). The CBA approach is therefore applied for other cases, meaning that any EQS compatibility issue has been cleared. Where this is the case, the purpose of a CBA method is to ensure that all the externalised impacts are properly accounted for. A proper methodology should therefore ensure the following:

a) *for assessing air pollution impacts, the EEA Value of Statistical Life (VSL) method adapted to the US EPA price levels (6 Million € -converted from 7.4 Million$) method should be used as a baseline, when quantifying air pollution costs (currently the EU range is either VOLY (52-120K€) or VSL (980K€-2.2Million€). The OECD recommends using the VSL level of the US EPA, VOLY was rejected a decade ago in the US on equity grounds, because biased against the elderly)*
b) *climate impacts shall be accounted for, based on a minimal carbon price floor shadow price set to at least 100€/tonne of CO2eq, recent studies including from DG Move suggest that the central estimate is 105€ whereas the high estimate is 199€ I the short to medium term, whilst the longer term climate change avoidance costs will be at 283€/tCO2eq (central) and 524€/tCO2eq (high estimate) for the 2040-to 2060 term, when the provisions of the revised IED will take effect (see Table 33 in https://www.eionet.europa.eu/etcs/etc-atni/products/etc-atni-reports/etc-atni-report-04-2020-costs-of-air-pollution-from-european-industrial-facilities-200820132017)*
c) *the CBA must also consider the directly associated impacts of granting a derogation and refrain from considering a "single pollutants" and media route approach.*
Upstream or downstream related impacts of the given industrial activity and the granting of a derogation need to be accounted for. In certain cases granting a derogation will mean that a certain type of high polluting input fuel/material will be used, hence favouring environmental damage to continue at the upstream phase. An illustration is used for a case where a lignite plant would either derogate on the SO2 to air or mercury to air parameter under the LCP BREF (which is very common in many countries). Competent authorities tend to only consider the stack emission of the concerned power plant but not all the directly related other environmental impacts that come with the granting of the derogation. In the case of mercury or SO2 this would mean that the open cast lignite mining of that fuel with these very inherent negative properties may continue to operate at low cost (despite the fuel switch BAT). It is self-evident that the "mine to mouth" (lignite) plant operator relying on this fuel relies on the continuation of the mine operation, which in turn makes profits from higher fuel burn rate of the downstream (adjacent) lignite plant. Hence those are directly associated and interdependent activities. In the current approach of the BAT derogation procedure, only the stack emissions (SO2, mercury) are considered whilst the upstream or downstream sulphates,

water pollution, soil pollution, diffuse dust emissions etc from mining activities phase will probably get ignored / dismissed in full. As the recent EEB 'Mind the Gap' report https://eeb.org/library/mind-the-gap-report/ demonstrates, there is failure to properly implement the water cost recovery for lignite mining related water impacts. Allowing a lignite plant to run at low cost will therefore incentivize continued lignite mining and hence continuation of lignite combustion, and hence also GHG emissions.
Finally, mercury emission (from stack) deposit in soil and surface waters, making the achievement of the 2027 mercury phase out and achievement of the good ecological/chemical status set in the WFD impossible to reach/ outsourcing de-pollution costs to the community.

All those associated impacts seem not to be properly accounted for. Failure to do so is in contradiction to the stated EU Green Deal and Zero pollution ambition commitments, this approach is also an example of failure to properly implement relevant EU environmental protection acquis objectives;

d) Cost benefit assessments should be based on the effectiveness of the abatement efficiencies of the techniques and possible pollution load reductions, otherwise the CAPEX and OPEX (coming with the implementation of the technique) will not reflect the true potential of potential pollution avoidance and hence under-estimate benefits;
e) impacts shall consider trans-boundary impacts and secondary pollutants.

Note:

- *ecosystem damages cannot be quantified in full so this is a bias towards underestimating the benefits of pollution prevention.*
- It is current practice that Member States develop their own methods which vary significantly and do not reflect new findings e.g. the existence of secondary pollution is generally not recognized or assessed by the authorities (e.g. in the Czech Republic and in Poland).
- Article 15.4 also refers to "disproportionality higher costs" compared to what is expected for BAT-C implementation. It is therefore implicit that a higher cost of implementing BAT is expected and expected as such as a baseline by the decision makers. However, the scale of "dis-proportion" (of higher costs) compared to the benefits is unclear. Where the costs of achieving BAT are approximately the same as the external costs of environmental impacts, we argue that the Art. 15(4) derogation should not be granted based on the legal principle of strict interpretation of any derogations (Exceptio est strictissimae applicationis) and the clarification in the IED that a disproportionate higher cost level than the benefits is expected. This CBA and disproportionality assessment can only be made when the remaining operational life (incl. operating conditions) of this installation is known and trade-off implications are clear.
  Further the BAT-AEL constitute a range, if the permit ELV would require the strict BAT-AEL compliance that would mean much less pollution, with several factor magnitudes difference depending on whether the ELV would require the uptake of more effective abatement techniques and require the operator to use its abatement to full abatement potential. For most cases the competent authority would only assume compliance with the upper -BAT-AEL, not the lower BAT-AEL (see LCP BREF examples on lignite combustion).

  A load-based concept (equivalence in overall environmental impact) could satisfy the second safety net clause in the Art 15.4, referring to the need to achieve a general high level of environmental protection as a whole and not to cause significant pollution, this approach

would also enable to deal with cross-media impacts in a more coherent approach with the IED e.g.; higher water recycling rates may mean building up of concentration of a certain pollutant in the waste water stream, whilst the concentration may be higher when release occurs the overall load to the environment may be lower or equal but in the same time water consumption is reduced as well as chemicals used for WWTP reduced or less energy consumption for treatment, hence yielding other environmental benefits .

A notion of disproportionality would possibly be established if the costs are more than twice the benefits and would have merit to implement the polluter pays principle to some extent. However, setting a CBA ratio purely based on economic consideration has social/ human rights/political implications if granting a derogation would also imply premature deaths due to air pollution or fueling climate change which can be prevented if the operator would just implement the strict BAT-AEL levels (which are considered as economically viable for the operator). This is why risk of achievement of Art 18 (EQS) compliance should be non-negotiable, which is aligned to the current IED provisions (Article 15.4 derogations shall be "without prejudice to Article 18…").

- The IED required to set „additional measures" (see current wording of Art. 18), even if they are beyond BAT and hence within the usual remit of the permitting authority these should be explicitly described in the permit and set down the trigger conditions and ensure these remain in force when the permit is in force. Also, procedural guidelines for Art. 18 implementation should be provided, let alone to make sure the permit conditions are up to date with changes in the EQS.

- The Commission should not await the IED review and take swift infringement actions where current provisions are not respected. According to the Czech official Art. 15(4) guidance, if the costs of the technology and external costs are equal, the criteria is assessed as "neutral-positive", i.e. in favour of granting the derogation (the guidance is available here: https://www.mzp.cz/ippc/ippc4.nsf/b8b42dbc0c8637bac125773c0021a91e/bac8b906439804d4c125846b00426e5d?OpenDocument). In Poland, the official guidance (p. 36) states that the derogation is admissible if the cost/benefit ratio is lower than 0,7 - this approach is slightly more pro-environmental (see the official guidance here:https://ekoportal.gov.pl/fileadmin/Ekoportal/Pozwolenia_zintegrowane/Podrecznik_dotyczacy_udzielania_odstepstw_-__Konkluzje_BAT_dla_LCP.pdf).

Subject indirect releases of polluting substances to water to an assessment demonstrating that such releases do not lead to an increased load of pollutants ending up in receiving waters than if the IED installation were to apply BAT and meet AELs for direct releases.

→ *Emissions to air*
→ *Emissions to water (slight)*
→ *Emissions to soil (slight)*
→ *GHG emissions*
→ *Energy use*
→ *Water use*
→ *Other resources/ materials use*
→ *Waste generation*

→ *Other the benefits are limited since this approach does not incentivize optimisation at the source. It may be acceptable to consider indirect releases only for pollutants that are properly abated by the UWWTP e.g. P, N or TSS.*

Effectiveness of this approach depends on whether the assessment is made with rigor, and ensuring that no recalcitrant pollutant is present in the waste-water inventory.

The EEB questions on whether this approach will deliver "equivalence" to applying compliance of the BAT-AELs at the source upstream: if pre-treatment is applied prior to indirect emissions release to UWWTP so to achieve the BAT-AEPLs, we expect a lower pollution load to enter into the WWTP input wastewater stream and hence a lower discharge into the receiving water.Therefore, there is no equivalence in only requiring the downstream UWWTP to meet the BAT-AELs. This becomes even more important considering the metals or other residues of concern in the sludges.

- Prohibit the indirect release of polluting substances to water

→ *Emissions to air [significant]*
→ *Emissions to water [significant]*
→ *Emissions to soil significant]*
→ *GHG emissions*
→ *Energy use [significant]*
→ *Water use*
→ *Other resources/ materials use [significant]*
→ *Waste generation*
→ *Other "the benefit of this approach is also prevention at source and holding the source operator of the polluter accountable, and to prevent a "dilution" approach.*

It will incentivise the operator to prevent the generation or use of recalcitrant water pollutants in its production process. Some UWWTP are not equipped to effectively abate the pollutants concerned. Further dilution would also weaken the identification of sources of pollution.

Finally, the responsibility of dealing with metals or other residues of concern in the sludges of the waste water treatment plant shall be borne by the operator where they originate. This approach is therefore to be favoured.

More details below: We would like to point out that an indirect release of polluted wastewater has the same toxicity for the environment. Therefore, we suggest that the new IED should clearly state that either indirect release of industrial wastewater is prohibited, or, at least that BAT-AELs and monitoring BAT are to be applied to all wastewater which originates from the industrial technology, regardless of the way in which it is released. The BAT-AEL should be complied with "at the fence" and prior to further release through a downstream UWWTP.

It is very important that BAT conclusions include monitoring of emissions and BAT-AELs for both direct and indirect discharges (indirect discharge: discharge not directly to the environment, but to a sewer or to an off-site waste water treatment plant) to a receiving water body, as common wastewater treatment plants may not be fitted to treat toxic heavy metals or other persistent pollutants. This therefore excludes the possibility of a derogation (even if the Monitoring BAT are not subject to derogations).

It is also important to ensure that no "footnote derogations" (e.g. WT BREF BAT 20, table 6.2, footnote 2) are included in such BAT conclusions, offering flexibility to operators that could

undermine effective implementation. The footnote in question states that the proposed indirect discharge emission levels *'may not apply if the downstream waste water treatment plant abates the pollutants concerned, provided this does not lead to a higher level of pollution in the environment'*. This vaguely-formulated derogation is not in line with the principles of the EU Water Framework and Industrial Emissions Directives: pollution abatement at source, the polluter pays principle, no dilution of hazardous substances, equivalent level of protection. A downstream (biological) waste water treatment plant does not guarantee an equivalent level of protection for many critical pollutants e.g. for toxic heavy metals: the removal efficiency is lower than in the case of a physico-chemical treatment, there is dilution and, often, it is not the polluter who pays.

In case a local authority intends to grant such derogations, they should make sure that the downstream waste water treatment plant is indeed appropriately designed and equipped to abate the pollutants concerned and is not operating in conformity with its permit because the dilution of substances allows the operator to comply with the prescribed pollutant (concentration) limits.

Another issue to be considered is the proper disposal of sludges produced following the treatment, as metals or other substances can be retained therein. The aim should be to prevent / control the pollution and not shifting the contamination from water to soil.

One of the sectors that deserve the most attention when it comes to addressing the water pollution aspect is the industry treating water-based liquid waste (covered under the WT BREF). Examples of such wastes include emulsions/cooling lubricants, acids e.g. pickling acids from surface treatments, alkaline solutions, concentrates/saline solutions containing metals, waste water containing hydrocarbons, solvent mixtures, cyanide wastes, sludge (including drilling mud), aqueous marine waste. A list of waste types is included in page 603 of the WT BREF.

Another important aspect to consider here is that, in order to improve the overall environmental performance of an installation, we need to monitor the waste input (as part of the waste pre-acceptance and acceptance procedures) - pre-acceptance procedures aim to ensure the technical (and legal) suitability of waste treatment operations for a particular waste prior to the arrival of the waste at the plant.

Acceptance procedures aim to confirm the characteristics of the waste, as identified in the pre-acceptance stage (see BAT 2)- in terms of e.g. bio-eliminability by determining e.g. the Biochemical oxygen demand or BOD - BOD refers to the amount of oxygen needed for the biochemical oxidation of organic and/or inorganic matter. This parameter is often used as a surrogate of the degree of organic pollution of water- or performing a so-called Zahn Wellens test among other methods.

This has been recognised by BAT 52 of the WT BREF, and it is a great provision in the sense that it guides companies to choose the optimal treatment route. This provision can be further strengthened by including criteria for bio-eliminability that can be used to decide whether a waste water stream is adequately treatable in a biological WWTP or should get a pre-treatment.

The following criteria were suggested for inclusion in the BREF during the review process by some EU member state experts and the EEB, and accepted by the hazardous waste industry representatives:

- DOC (Dissolved Organic Carbon) elimination of >70% in 7 days (>80% when adapted inoculum is used) in accordance with DIN EN 9888 (Zahn Wellens). This is considered a sufficient criterion of biological treatability in a biological waste water treatment plant;

- if BOD/COD ratio > 40%, no problems with bio-eliminability are expected and, in that case, the execution of a Zahn Wellens test is unnecessary.

These criteria aim to ensure that liquid wastes containing a significant load of organic PBT substances are treated separately in order to minimize the risk posed to receiving water bodies and soil. They do not form part of the BAT conclusions merely for procedural reasons (lack of time for discussion during the final meeting of the TWG).
The WT BREF gives the following rule of thumb for biodegradability:

· BOD/COD < 0.2 relatively non-degradable waste water
· BOD/COD 0.2–0.4 moderately to highly degradable
· BOD/COD > 0.4 highly degradable.

Especially for waste waters with a BOD/COD ratio between 0.2 – 0.4, it can be useful to perform a Zahn Wellens test. A recent test, performed in the context of a permit review in Flanders (Belgium), has shown that two waste waters with a similar BOD/COD ratio perform totally different in a Zahn Wellens: the TOC of one waste water was easily eliminable and at the same time, acute toxicity also decreased completely. This result showed that the readily degradable TOC was responsible for the acute toxicity. The waste water was easy to treat and the water posed no risk to the aquatic environment – the TOC in the other waste water was only partially eliminated after the Zahn Wellens. The toxicity decreased only little, which indicates that the toxicity was not due to easily degradable organic compounds. This waste water potentially poses a problem to the aquatic environment.

We would further like to bring to your attention, the following proposal which was also submitted during the WT BREF review process (supported by some EU member state experts, the EEB and the hazardous waste industry delegations) to monitor acute toxicity in the effluent. The proposal was not included in the final text again because of procedural reasons (lack of time during the final meeting of the TWG):

Additional technique proposed for the treatment of water-based liquid waste:

"In order to improve the overall environmental performance, BAT is to monitor acute toxicity in the effluent at the point of discharge. The lower end of the BAT-AEL for direct or indirect emissions to water may apply in case there is residual toxicity in the effluent"

Acute toxicity tests allow for an integrated assessment of the potential environmental impact of a waste water stream (including synergistic/antagonistic effects of compounds) that cannot be achieved by analysing single substances or other chemical sum parameters. The test results reflect the effect of all compounds present in the waste water, regardless of their origin and nature (e.g. including side products and metabolites).

Examples of the application of acute toxicity tests are :

- ranking the environmental risk of waste water discharges;
- toxicity identification/reduction evaluations;
- prioritization of waste water treatment techniques;
- judging the effectiveness of treatment improvements;
- identifying sources of effects observed in receiving water bodies.

Tests carried out in the liquid waste treatment sector show that acute toxicity often occurs. Per waste water, toxicity strongly varies in time and it is not possible to be monitored by 'a most sensitive organism'. It is therefore necessary to test with the whole battery of organisms (distinct

trophic levels, including bacteria, algae, invertebrates and fish eggs).

The tests also confirm that there is no systematic relationship between COD and toxicity. This was to be expected because toxicity can also come from inorganic components or very low levels of certain organic substances that are not visible in the COD measurement.

Treatment with activated carbon does not lead to a decrease in toxicity in all circumstances, but there are situations where there is a decrease. This means that it may be appropriate to better manage active carbon treatments in function of toxicity reduction in addition to or in place of COD removal. The sources of toxicity can often be identified by backtracking (Toxicity Identification and Evaluation).

We ask the European Commission to consider the concrete proposals above, include the respective principles directly in the text of the Directive, but also (for the sake of saving time and other resources) consider that the texts above could constitute standard texts of the BAT conclusions (such as the BAT conclusion outlining the requirements Environmental Management System) for the BREFs of relevance and/or directly formulated within the IED main provisions (e.g. in the EU safety net chapter on water quality).

Some examples of (mis-)practice in national implementation (received from EEB member):

- CZ implementation of LCP BAT-C, BAT 5 and Table 1 (BAT-AELs for direct discharges to a receiving water body from flue-gas treatment). These emission limits and monitoring requirements are almost never applied to individual permits, because the operators and national authorities argue that: (a) they release their wastewater via a wastewater treatment plant, (b) the wastewaters from FGD are allegedly all used for energy by-products production. Still, based on their annual reports, these facilities are legally allowed to emit significant amounts (higher than BAT-AELs) of pollutants into water bodies, including heavy metals such as mercury or ecotoxic selenium (e.g. Chvaletice lignite power plant is allowed to emit 20 kg of mercury into water per year, full text of IPPC permit is available here: https://www.mzp.cz/ippc/ippc4.nsf/$pid/MZPPCHJNJS6G).

- lignite power plants often use tailings ponds to treat their wastewater. Industrial wastewater which is emitted into the tailings pond and after some time continues to be emitted into a water body is not considered direct release by Czech authorities. Therefore BAT-AELs do not apply to these recipients. Stricter conditions for tailings ponds' operation and monitoring in general are missing and should be laid down to prevent seepage or accidents.

- Delete the flexibility that allows setting different ELVs in permit conditions in terms of values, periods of time and reference conditions (IED Article 15(3[b]).

- → *Emissions to air [significant*
- → *Emissions to water [significant*
- → *Emissions to soil [slight]*
- → *GHG emissions not applicable*
- → *Energy use not applicable*
- → *Water use slight*
- → *Other resources/ materials use not applicable*
- → *Waste generation not applicable*

→ *Other Significant has been mentioned but only because it "depends". In all cases the shorter average period has to be implemented e.g. where the BAT-AEL refers to a daily average value it is not acceptable to set only a yearly average ELV and allow higher peaks.*

The other way round should be acceptable, where only a yearly averaged BAT-AEL is set, the ELV can provide for shorter term averaging periods which enables to capture peaks. EEB in generally favors at least daily average ELVs since these allow to capture better fluctuations in emissions and more timely control (peaks).

A bigger issue is the "equivalent parameter" provision in Art 14(2), an evidence of "equivalence" is not made in most cases (see also previous point as to indirect wastewater release). Notable examples are the Refineries bubble approach or the Art 32 TNP regime it is clear that these compliance regimes are in no way equivalent in terms of environmental outcomes (see previous inputs regarding TNP derogation in the first co-decision).

- Tighten provisions of Article 18 so that stricter ELVs (going beyond BAT) shall be set in permit conditions in the case that environmental quality standards are not met

→ *Emissions to air significant*
→ *Emissions to water significant*
→ *Emissions to soil significant*
→ *GHG emissions (not applicable)*
→ *Energy use (not applicable)*
→ *Water use significant*
→ *Other resources/ materials use significant*
→ *Waste generation significant*
→ *Other : we regard this requirement as a given and mandatory to ensure EQS compliance, however the IED lacks clarity as to what this means concretely. We would expect the BREF to provide for a '0 tolerance approach' as to pollutants subject to an EQS standard. In previous point (Art 15.4 derogation example) the mercury parameter was mentioned as an illustration.*

Automatic permit conditions tightening triggers could be provided for within the IED provisions, where a member state is not on track to comply with the achievement of a given EQS (e.g. withdrawals of derogations, reduced operation, pollution load quotas etc). This should work as well in relation to air quality standards (AAQD and NEC-D), with a compliance safety buffer so to ensure pre-emptive damage prior to breaching a given EQS.

There seems to be a general deficit as to the Art 18 interlink in permitting. Either this is not well reported, or competent authorities hardly ever use Article 18 to set stricter permit requirements. The IED registry data (December 2020 rev2) has 154,362 records; of those just 76 records indicate 'stricter permit conditions' for all reference years. That equals to 0,05% of the entries!

8 records are for Iron and Steel (at 6 installations), 4 records (2 installations in FR) have a stricter dust limit on LCPs, 6 records on NFM (FR), just one entry on CLM (dust-SE), 3 entries on CAK (DE), 6 records on Pulp and Paper and wood based panels (SE, DE), just one refinery on NMVOC (UK) and 6 records on WT cadmium but relating to just 2 installations. The remains are for the Glass BREF (38 records). From all those 76 records, just 13 highlight the link to Art 18 as the permit review trigger: These related to Cadmium (WT BREF, 2 records), CLM dust level (1 record), Pulp and paper on total phosphorus (4 entries) and iron and steel for the dust parameter (2 entries).

Note that if the filter is kept for (2019) the result is even lower: Just 5 entries remain (2019); namely CLM dust (1), PP for total phosphorus (2) and Iron and steel (Dust). All those 5 entries relate only to Sweden.

Climate ambition and interim targets of carbon intensity shall also be set and to constitute an EQS. This could take the form of fuel quality standards and carbon emission standards (see climate ambition section). Similarly the IED could foresee that certain groups of chemicals of concern may not be produced or used (see further points in the Non-toxic environment section)

If you have referred to an "Other" environmental pressure, please specify. [open text response]

- **Impacts on public health, social equity and fundamental rights**

Positive impacts on public health, social equity, environment and fundamental rights should be promoted. Health benefits are linked to laws on clean air, clean water and clean soil. Likewise, these provisions are essential for a thriving society and economy.

While the mutually beneficial interrelation of environmental and human rights protection is recognised on international and European level, it needs stronger links in the concrete legislation to get a justiciable right instead of declarations only. *For more information how to strengthen the focus on human health in the crucial IED and how to integrate fundamental rights in the IED, please refer to inputs from our member Client Earth (please see the answer to Q108, section 'strengthening the link to fundamental rights').*

The setting of "Union standards" (BREFs) which take an integrated approach also have important implications as to the governance aspects linked to involvement of public interests in decision-making. In the last question (Q107) the EEB highlights flaws in the Seville Process, which relate to wider issues that are applicable for European Commission Expert groups to larger extent.

Workers' rights (occupational exposure) are also very relevant to consider, in many cases the substitution of the use or production of chemicals of concern at the industrial production phase does not only benefit the environment (or citizens living in receptor areas) or that are otherwise affected (diffuse emissions from products or other wider impacts due to the activity) but also the health and safety of workers working at the industrial production site.

- **Impacts on biodiversity**

The main five direct drivers of biodiversity loss are changes in land and sea use, overexploitation, climate change, pollution, and invasive alien species (see EU Biodiversity Strategy for 2030 Bringing nature back into our lives, COM/2020/380 final, 20/05/2020). An improved IED will also have impact on almost all of these drivers – first and foremost due to the integrated approach of the IED, if implemented well. As confirmed by the Commission in its Biodiversity Strategy, the biodiversity crisis and the climate crisis are intrinsically linked. It demonstrates once more the urgent need of a decarbonised industry (see climate section 2)

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22. **If you are supportive of introducing time limits for Article 15(4) derogations, what time limit would in your view be the most appropriate and effective?** (express in years and months) [open text response]

see answers above. The main issue is to set proper framework conditions and criteria on what basis derogations may be considered, a time limit is rather a minor safety net.

Derogations should not be allowed for "playing time" to catch up / defer retrofitting of plants unless there is a win-win situation in terms of public benefits which would justify a time extension. A maximum 4-5 years validity date of any derogation seems justified.

The EEB position is further elaborated under Q23 (longer timing may be justified for deep transformation within the industry such as emerging techniques or techniques with no sufficient TRL – see climate ambition section).

Below are some country experience / illustrations received from members:

- Not limited to the LCP and GLS sector in the Czech Republic and Poland confirm excessive use of derogations
- the report "Assessment and summary of Member States' reports under Commission Implementing Decision 2018/1135/EU" (070201/2019/816748/SFRA/ENV.C.4) states that up to 2018, 22 derogations in the EU have been granted without a specified end-date. We consider this practice in breach of Art. 15(4), for two reasons:
  1) With an infinite time period of the derogation, it is impossible to carry out a cost benefit analysis and compare the impacts of the derogation to the costs necessary to achieve BAT-AELs. Or, in other words, in theory the impacts of an infinite derogation on the environment would be very high and it is very improbable that they would be in any scenario outweighed by the costs of BAT.
  2) The authorities in these cases are not (and cannot be) able to ensure that "no significant pollution is caused and that a high level of protection of the environment as a whole is achieved," as required by Art. 15(4).

In the Czech Republic, 17 sources have applied for a derogation in the LCP sector, for 1 to 3 pollutants (most frequently Hg, NOx, SO2 or dust). Out of the three derogations that have already been granted and are in force, the derogation periods are: 8 years (NOx, operator: TAMEH Czech, s.r.o.), 8 years (NOx, SO2) and 4 years (NH3, operator: Veolia Energie ČR, a.s.), 6,5 years (Hg, operator: ORLEN Unipetrol RPA s.r.o.). Some further information is available in the EEB IPDV database (Article 15.4 derogations) http://eipie.eu/projects/ipdv .

In some cases the Art. 15(4) derogations are used only to prolong the lifetime of an old source which will never be reconstructed for economic reasons. Considering that for LCPs a specific procedure has been foreseen (Art 33 IED LLD derogation) it is not acceptable those sources are able to rely on an Art 15.4 derogation without a real win-win gain for the environment but just for a time winning exercise. However, this was not the intention for introduction of Art. 15(4) derogations into the IE e. g. in Poland we came across several Art. 15(4) derogation cases, where the operators started the process of modernization, however, as soon as they were granted the derogation, they stopped (E.g. the case of Polish operator Tauron Cieplo, article in Polish is available here: https://www.cire.pl/item,191960,1,0,0,0,0,0,tauron-cieplo-wezwal-erbud-do-wstrzymania-prac-w-elektrocieplowni-w-tychach.html.) In some cases operators even cumulate derogations (Art 32 TNP - winning 4 years) combined with Art 15.4 derogation (new LCP BREF), despite the already 4 years compliance deadline offered.

Also, when assessing BAT and derogation scenarios, we suggest that a "shut down scenario" should be assessed as well - with minimum costs, achieving the highest level of environmental protection. The operator should in all cases be liable to compensate for the external health and environment damage costs due to the granting of the derogation period and should be sanctioned if compliance is not achieved by the time-period set. It should be excluded to be able to rely on repeated or prolonged

derogations (see Art 32 TNP, or 33 LLD , 35 CHP then Art 15.4 derogations, seems to be the standard approach for the coal/lignite LCPs).

23. **Are there alternative approaches to the amendments under consideration that should be considered?** [Yes; No] If yes, please specify. [Open text response]

YES : to us there should be a combination of tightening on various aspects. For CBA aspects please refer to previous question.

The EEB position on the various options proposed is further developed in each of the options mentioned under Q 21, however we stress that all those options need to be applied in combination to each other, a full Art 15.4 derogation is also not ideal considering that the standard approach for the majority of cases is a default 1:1 implementation at the upper (lenient) BAT-AEL range.

Further options should be considered as to damage control the application of Article 15.4 derogations and to enable an environmental level playing field.

- The EEB proposed -at several occasions- to take **a 'fast track adoption of BAT-C' under the IED format** (COM implementing decisions) and **make parallel use of the EU safety net extension provision provided by Article 73** (both approaches are complementary).

The COM should consider to:
Option (a): adopt in the interim in the IED BAT-C format the existing BREF BAT-C from the IPPC Framework with a default innovation / improvement factor [20% pollution cut] applied, pending the publication of a revised version; and/ or

Option (b): adapt the EU safety net of the IED to confer binding status to updated BAT-C of the previous IPPC BREFs / or first set of IED BREFs if this approach would be more time efficient compared to review of a BREF.

Option (c) EU Safety net extension / update: Article 73 IED is the remains of the initial proposal of the European Parliament to provide for an "automatic adaptation" of the EU binding minimal requirements (EU Safety net) to be aligned to the middle of the BAT-AEL ranges set in the revised BAT-C within one year. This approach was strongly supported by the EEB (we favoured the lower end of the range).

Due to negotiations with Council and the European Commission, the requirement to periodically review the need to review the EU safety net is now subject to a discretionary assessment by the European Commission every 3 years, which is regrettable: no EU safety net extension ever happened since the existence of the IED (21 years from now). Yet, there is a clear obligation to adapt the binding requirements set in the Annexes of the IED to technical progress based on the impact of the activities on the environment and state of implementation of BAT for the activities concerned.

As long as the Art 15(4) derogation procedure remains and the Member States default implementation approach towards the upper BAT-AEL range is maintained, it is unavoidable to regularly update the binding ELVs in a pre-emptive manner, in order to limit potential damage caused through the application of Art 15(4) derogations and also to drive for improved BAT uptakes (triggered by the lower range BAT-AELs).

Recital (41) requires the Commission to address pollution from heavy metals and dioxins and furans in particular, despite this no action has been delivered on the EU safety net review.

The following policy suggestions are made as to the EU Safety net:

- the current sectoral chapters of the IED (as from Chapter 3-Chapter 6 included) should be replaced by thematic chapters e.g. Energy generation and climate ambition, resource management / circular economy, non-toxic environment, water quality, soil quality (see related comments in other sections).

Ambition is particularly expected on the high impacting activities with the below key priorities and where the current EU BREF standards are either insufficient or not well implemented:
- overhaul (replacement) of Annex V and Chapter III as regards LCPs (see climate chapter). Considering the ongoing court case regarding the 2017 LCP BREF validity a no-regret safety net approach would be to require the compliance with the strict BAT-AEL range as well as mandatory energy efficiency standards performance aligned to state of the art for the fossil fuel fired LCPs that will still be in operation after 2025;
- Alignment of the EU Safety net levels in Annex VI for co-incineration (cement plants) to the same levels as dedicated waste incineration plants.
- Introducing EU Safety net binding requirements for iron and steel plants in line with BAT performance, in particular relating to SO2, dust and heavy metals emissions from sinter strands with clear shift to conversion to Electric Arc Furnace. Provide for other provisions to shift alternative ways of primary steel making mandatory use of renewable based energy sources (e.g. renewable hydrogen)
- Introducing safety net provisions on chemical industry, in particular in relation to emissions to water and air pollutants and production of Substances of Very High Concern
- Introduce safety net provisions in regard to polymers production
- Setting minimal binding requirements on refineries, in particular on air and water. Withdraw possibility to use the bubble approach (Section 5.19 of the REF BREF) or introduce correction factor of 0.5. Provide for controls to prevent potential combustion of distillation residues / HFO with sulphur content exceeding 50ppm in other stationary or mobile combustion appliances. Controls could take the form of minimal output quality requirements as to the fate of those products/waste residues of the refining activities (see also more forward-looking provisions within the Climate section)
- Reviewing need to include other minimal provisions for other sectors where environmental improvement potential exists / differentiated standards in Member States are implemented.

- **Replicability of abatement techniques and equivalent abatement performance should be considered**
  For most cases the abatement options at hand are very similar for the IED activities. For instance it should be possible to compare standards applies for activities that operate with similar infrastructure e.g. waste incineration with other combustion activities (Cement and Lime, other thermal power plants). In this case it should be expected that all similar industrial activities (emission sources) are subject to the same level of ambition in relation to abatement and BAT uptake. The higher the relative contribution of (negative) impact(s) on the environment the higher should be the expectation as to the strictness of the BAT-AEL and hence the rejection of granting any derogations;

- **The conditions under Art. 15(4) a) and b) of the IED ("(a) the geographical location or the local environmental conditions of the installation concerned, or, (b) the technical characteristics of the installation concerned") should be further specified in the text of the reviewed IED framework**. Currently, the operators and national authorities interpret these criteria rather extensively. This is implied in the report "Application of IED Article 15(4) derogations" by Amec Foster Wheeler (March 2018) and we also have evidence of this problem in our own practice. E.g. in the Czech Republic, the operators in the LCP sector have been granted a BAT derogation based on a "technical characteristic", which allegedly consists in recent investments in new technologies to comply with the emission limits set in Annex V

of the IED. This practice has been accepted by the Czech Ministry of Environment. In further cases, which are still pending at the time of this survey, other LCP operators in the Czech Republic have applied for a BAT derogation, arguing that "the quality of local lignite" and "the construction of the LCP which is adapted for local lignite" constitute a technical characteristic (Art. 15(4) b) of the IED) and "the position of the plant on the edge of the mine" constitutes specific geographical conditions (Art. 15(4) a) of the IED). This argumentation would lead to a situation where almost all the LCPs in the Czech Republic would be eligible for an Art. 15(4) derogation. ČEZ argued with this in all their BAT derogation cases (Počerady, Prunéřov, Ledvice, Tušimice, Trmice, Mělník...).

The criteria should therefore be made clearer within an Annex to the revised Directive. Normally these should be highlighted in the BAT-C themselves and be explicit (in the applicability restrictions). Geographical location and local environmental conditions must consist in special climatic and physical (or other objective) conditions which cause that the installation operates differently from others (e.g. physico-chemical wastewater treatment plant may not operate the same way at different water temperature conditions).

Again, we would wish to stress the cross-media impact as the more sound and IPPC/IED spirit aligned basis for any derogation option since there are almost in all cases technical solutions on how to remediate the need for a derogation application, even a very local and specific issue.

- **Clarifications should be required as to the requirement on need for an EIA.**

In general, any kind of permit review should be accompanied by updated assessments of the installations' environmental, climate and health impacts, including any kind of "substantial" changes and assessing impact of any kind of derogation. Next to Art. 5(3), 12(2), 15(4), this is also linked to an improved Art. 24(1).

This should be triggered in case of a decision likely to cause any significant environmental impact, such as lifetime extensions, different operating regimes or other decisions affecting environmental performance (even if complying within the BAT-C range). This clarification has been brought with the Aarhus Compliance Committee Case (ACCC/2014/121/EU) which found that a reconsideration or update of a permit condition should be subject to public participation in ALL cases (see Para 109) and in particular if the decision is capable of significantly changing the basic parameters of the activity or would address significant environmental aspects of the activity. This should therefore concern the involvement of the public in the considerations of the various options and implications of lifetime extensions and also the alternatives assessment involved (EIA). The alternative assessments should consider: cleaner techniques or other options not listed in the given BREF for which the operator seeks a derogation from (possibility of using a less environmentally harmful alternative technique for the provision of a given product/service). The IED provisions should clarify the EIA to this respect, notably in Art. 12(1), but also Art. 11 (general principles for operators), 14 (permit conditions), and Art 15(4) in relation to derogation procedures. AS stated above the cost-benefit assessment should provide a comprehensive assessment: While the EIA is already including climate impacts, this is not always working in practice within the IED context, due to its current scope limitations.

1.1.3 Lack of clarity and guidance for permitting processes

Permitting practices differ across the Member States. While the binding nature of BAT Conclusions has led to an improved harmonisation in permitting across the EU compared to the IPPC Directive, there remains scope for different interpretation and implementation of the requirements. Inconsistencies lead to a varying level of environmental protection achieved through implementation of BAT Conclusions across the EU Member States.

Building on the current legislative text, options are primarily focused on clarification and/ or the provision of additional guidance that would aid Member States in a more harmonised implementation of the IED and thus more consistent outcomes for the environment.

Issues currently under consideration include further harmonisation, clarification or provision of guidance on:

- Implementation of Article 16 of the IED concerning monitoring requirements, particularly with regard to monitoring indirect releases to water which are currently not explicitly covered by Article 16 and requirements for periodic monitoring of emissions to soil.
- Implementation of BAT conclusions in permits.
- Baseline reports submitted for environmental protection and stringency of requirements upon definitive cessation of activities (IED Article 22).
- Environmental inspections (IED Article 23).
- EU-wide definition of (co)incineration, including pyrolysis, currently left to each Member State.

28. **To what extent would guidance improve harmonisation between sectors and Member States in the following areas?** [Significant improvement; Moderate; Slight; No impact; Do not know; Not applicable]

- *Monitoring indirect releases*

- *Monitoring emissions to soil*

- *Implementation of BAT Conclusions in permits*

- *Development of baseline reports*

- *Stringency of requirements upon definitive cessation of activities*

- *Identification of waste (co-) incineration activities that require permitting*

To Q28: The problem with "guidance" is the absence of regulatory force and the content of the guidance itself. The EEB therefore prefers regulatory changes (clarifications). This is notably the case for indirect releases + monitoring (see also Section 5) and also on aspects relating to implementation of BAT-C in permits.

We have not yet checked the content of the baseline reports so cannot answer at this stage on whether the existing guidance is adequate. Transparency on actions taken so to prevent soil pollution and to remediate should be improved and data reporting should enable EU wide comparability (see Section 5).

1.1.4 Varied interpretation of enforcement and insufficient guidance

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Practices related to inspection and enforcement of environmental permits vary across the EU Member States often owing to differing interpretation of the compliance assurance rules and insufficient guidance at EU level on how inspection and enforcement should be implemented.

The current approach requires Member States to take the necessary measures to ensure that permit conditions are complied with. Building on this, so that Member States maintain this responsibility, options under consideration include, e.g.:

• Allow competent authorities to suspend operation of non-compliant plants: Amend IED Article 23 to allow competent authorities to suspend operation of non-compliant plants (e.g. drawing on experience with MCPD Article 8(3) whereby in cases that "non-compliance causes a significant degradation of local air quality, the operation of the medium combustion plant shall be suspended until compliance is restored").

• Introduce common compliance assessment rules with emission limit values under Chapter II of the IED.

• Implement support services for IED implementation to oversee compliance control and enforcement by the competent authorities and provide EU peer review and/or inspection.

• Elaborate Article 79 on penalties applicable to infringements of the provisions on the IED.

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33. **To what extent would the following enforcement options improve IED implementation?** [Significant improvement; Moderate; Slight; No impact; Do not know; Not applicable]

- *Allow competent authorities to suspend operation of non-compliant plants*

- *Introduce common compliance assessment rules with emission limit values under Chapter II of the IED*

- *Implement support services for IED implementation to oversee compliance control and enforcement by the competent authorities and provide EU peer review and/or inspection*

- *Elaborate Article 79 on penalties applicable to infringements of the provisions on the IED*

34. **Are there more ways in which enforcement can be strengthened?** [open text response]

We consider all of the above-mentioned options of strengthening enforcement adequate but lack details on how this will be ensured. We would like to clarify in which ways we think these options should be reflected by the new Directive:

- Suspension should be possible prior to a damage actually occurring. This should be considered in particular where the safety buffer against relevant EQS targets is not safeguarded. The MCP Directive provision is therefore not adequate since it requires intervention only when "significant degradation of local air quality" has either happened or likely to happen, this example of tolerance of obvious permit breaches causing illegal air pollution may not be well understood by EU citizens, it is as if it would be ok for any operator of a car/truck to breach speed limits in cities as long as no one gets killed.
- The formulation of the phrase is unclear, currently the Member States are not only "allowed" to suspend non-compliant plants, the problem is that they hardly ever do it so they should be obliged (Article 8 should be clarified). The CA must require the operator to take any appropriate complementary measures so to restore compliance, however no maximum timeline is foreseen as to restoring compliance. The suspension hurdle is also excessive: the current text refers to immediate danger to human health or threat to cause an immediate significant adverse effect upon the environment. Specific suspension obligations are also highlighted in the outdated EU safety net provisions: for LCPs running under malfunction (and hence in breach of normal operating conditions) the breach duration may be up to 6 months! (in case of serious shortage of low sulphur fuels – Article 30.5, to be deleted since obsolete

given the current energy diversification context) or 48 hours (notification of issue) + 24 hours (back to normal operating conditions) = total of 72 hours operating under breach (Article 36.2). Whilst the LCP refers to malfunction, hence exceeding multiple times the set ELVs (if that concerns e.g. secondary SO2 abatement for lignite plant), the waste Incineration sector may not exceed 'under no circumstances" the ELVs when incineration of waste, hence operate. The ELV may not be exceeded for more than 4 hours. Such breach may not exceed 60 hours over the year.
Where breakdown is identified the operator must reduce or close down operations as soon as practicable.
We would argue that the provisions set in the Chapter IV, even if dating back to 2006, should be the minimal expectations as to when suspensions of operation should take place (see other comments to OTNOC section)

- The text of Article 7 should be clarified since it refers to incidents or accidents "significantly" affecting the environment, this high impact hurdle is not aligned to the zero-pollution ambition

- Accidents prevention obligations stem largely from the Seveso III Directive. However only the "higher tier" facilities are required to elaborate a Safety Report. The EU Green Deal requires to further prevent industrial accidents but it is not yet clear if and when the Seveso III Directive would be reviewed. The IED would bring added value to require the lower tier Seveso III facilities to establish a Safety report. This suggestion is aligned to the general principles governing the basic obligations of the operator, namely that "the necessary measures are taken to prevent accidents and limit their consequences". The requirement to implement the key Seveso III provisions could therefore be required through the IED review e.g. requirement to establish a Safety report also for lower tier installations, more clarity as to the content and commitment under the MAPP for continuous progress and improved safety distances could also be brought by the IED review.

- The option to suspend operation of non-compliant facilities is very closely related to the availability of data on emissions and operation parameters in general. OTNOC situations are not reported in a timely manner to the public. This is insufficient to ensure that in case of non-compliance the facility in question is shut down as soon as possible to prevent environmental damage. Therefore, we also suggest that real time information on OTNOC situations is available both to the authorities and the public (RSS feed, alert etc) (– see wider points in Section 5)
- We agree with the general principles of Art. 79, however, it seems from our practice that the wording is too vague, which leads to different implementation. Therefore, we would suggest that the wording is specified so that it refers e.g. to a percentage of the operator's income as a benchmark for a penalty that would really be "dissuasive". In EU competition law penalties are normally in the range of 10% of the global annual turnover of the mother company whilst a breach of competition law rarely implies serious health and environmental damage implications, unlike IED and Seveso III incidents of non-compliance or accidents.
- Art. 79 should also explicitly state that in case of a lasting breach of the IED, multiple fines can be imposed on the operator.
- The revised IED could also include a list of criteria to be taken into account for the imposition of penalties and provide guidance on the level of sanctions. In this regard, the Commission could refer as an example to the systems of sanctions already existing in other fields of EU law.

For instance:

• Title VIII Enforcement (Articles 89-93) of Council Regulation (EC) No 1224/2009 of 20 November 2009 establishing a Community control system for ensuring compliance with the rules of the common fisheries policy
• Article 13 of Directive 2005/29/EC of the European Parliament and of the Council of 11 May 2005 concerning unfair business-to-consumer commercial practices in the internal market
• Articles 83 and 84 of Regulation (EU) 2016/679 (General Data Protection Regulation).

Currently, under the IED provisions, persons which suffer damages following the operators' breaches of IED obligations cannot request and receive compensation for the damages suffered.
The revision of the IED should include provisions regarding the person's right to request and receive compensation for damages in order to harmonize this matter at EU level.
Within the EU legal framework, compensations for damages are already regulated in an extensive manner. For example, the Directive on antitrust damages actions (2014/104/EU) laid down under Art. 11 that "each of those undertakings (liable for the harm caused by the infringement of competition law) is bound to compensate for the harm in full, and the injured party has the right to require full compensation from any of them until he has been fully compensated."
In a similar manner, the General Data Protection Regulation (2016/679/EU) provides under Art. 82 that "[a]ny person who has suffered material or non-material damage as a result of an infringement of this Regulation shall have the right to receive compensation from the controller or processor for the damage suffered".
It is of utmost importance to have similar provisions under environmental law, such as the IED, especially as the breaches made in this field generally have complex and long-term consequences on both environmental factors and human health. At present, such a right to compensation for damages caused by those breaches is not provided for under existing EU environmental law. In particular, the Environmental Liability Directive (ELD, 2004/35/CE), exclude such right expressly in Art. 3(3) ELD.

The EEB supports further details and amendment proposals made to this question, notably by our member ClientEarth, please refer to their submission text.

1.1.5 Varied interpretation and not using latest techniques for monitoring and reporting

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The IED and the BREFs have contributed to a further harmonisation of monitoring provisions. However, practices related to monitoring of environmental permits continue to vary across the EU Member States. Added to this, while the use of latest available techniques to monitor emissions supports online reporting of real time continuous monitoring data, the extent to which this is integrated in Member State reporting is limited.

Options are under consideration to integrate new technologies that would simplify and facilitate Member States meeting their legal requirements as well as to extend the current scope of monitoring and reporting obligations, including (overlap with measure under consideration for Problem 5):

- Include provisions so that 'real-time' emission data are automatically linked to Member State databases, in order to be linked with ambient air quality
- Extend the scope of monitoring/ reporting concerning Article 15(4) derogations.

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39. **Do you use real time monitoring for measuring emissions from (agro-)industrial plants?** [Yes; No]
If yes, please explain how you use this data. [open text response]

YES

see EEB IPDV in house database, however we struggled to get up to date CEM data in user friendly format. http://eipie.eu/projects/ipdv and background briefing https://eeb.org/library/industrial-plants-data-viewer-background-briefing/

Article 16(1) on monitoring is not crystal clear -enough- that MS have to implement the BAT-C on monitoring. The current wording "be based on" allows re-interpretation despite BAT-C being clear on when monitoring is applicable and should be deleted.
When reporting is done the subtraction of measurement uncertainty, date of last calibration and link to the third-party calibration report should be provided. This also links to section 5 on data reporting and sharing. The EEB has more suggestions that are wider in relation to real time monitoring, reporting and benchmarking (see Section 5)

40. **To what extent do you expect the considered options to impact on environmental pollution from (agro-)industrial plants?** [Significant reduction; Reduction; No impact; Do not know; Not applicable]

- *Real time monitoring systems*

- *Extend the scope of monitoring/ reporting concerning Article 15(4) derogations*

- *see section 5 for further suggestions, notably on the following:*

a) *harmonised annual compliance report format for permit conditions and evidence of compliance to be electronically reported in centralised EU database which covers all environmental media performance information*
b) *EU IED permit report template (extract of permit ELVs and conditions) in centralised EU database allowing search and comparison*
c) *direct reporting of continuous emissions monitoring (CEM) raw data to centralised EU database pending validation.*

This does not require new technology but just a review of COM implementing rules (IED and PRTR reporting rules). Good practice examples already exist in MS that need to be generalised. See more info here ttps://eeb.org/library/industrial-plants-data-viewer-background-briefing/ and here https://meta.eeb.org/2020/10/22/industrial-pollution-its-time-to-enter-the-digital-age/

1.1.6 (Agro-)industrial activities continue to contribute to transboundary pollution

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Whilst the IED has led to reductions of transboundary pollution from (agro-)industrial plants, this continues to be relevant.

Options are under consideration to strengthen provisions to further minimise transboundary environmental pollution, including:

• Ensure greater cooperation/ harmonisation between Member State competent authorities and nature conservation agencies/ groundwater control, including public consultation (IED Article 26)

• Improvement of actions to limit transboundary pollution under Article 26 of the IED. This could include for example, mandatory response times from receipt of a Member State request, horizon scanning for potential issues.

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44. **To what extent do you expect improved cooperation between neighbouring Member States to impact on transboundary environmental pollution from (agro-)industrial plants?** [Significant reduction; Moderate; Slight; No impact; Do not know; Not applicable]

Moderate. See Turow case for a practical example. We see a strengthen role for cross country collaboration if there is mandatory consideration of transboundary impacts for any Art 15.4 derogation in consideration. A proper answer to this question directly relates to the permit review trigger (limitations) and need to carry out an EIA, and also the new approach as to Article 15.4 derogation decision making, all those issues are thus very interlinked.

1.2 Non-toxic environment

(Agro-)industrial plants often use, treat and store hazardous substances and with this there is a risk of emissions, accidents and leakages of such hazardous substances. The main drivers of this problem are:

• Insufficient coverage of chemicals of concern (including substances of very high concern (SVHC) and persistent organic pollutants (POPS)) in BREFs and BAT conclusions

• Lack of alignment between IED provisions allowing releases to water and the Water Framework Directive objectives for priority hazardous substances. There are opportunities to reduce such risks and contribute to achieving a non-toxic environment.

Options under consideration include:

• Operators to establish a chemical management system (CMS) to continuously move to safer chemicals, track, quantify and manage hazardous chemicals. This includes the mandatory use of available tools for chemical risk assessment made available by the European Chemicals Agency (ECHA) and regular reporting on progress and outcome, e.g. under IED Art. 14 (1)(d).

• Systematic inclusion in BREFs and in BAT conclusions of information on chemicals of concern used in the sector and the availability of safer chemicals.

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46. **To what extent do you expect the options under consideration to have an impact on environmental pollution from toxic substances?** [Significant reduction; Moderate; Slight; No impact; Do not know; Not applicable]

- *Operators to establish a chemical management system*

- Systematic inclusion in BREFs and in BAT-conclusions of information on chemicals of concern used in the sector and the availability of safer chemicals

47. **To what extent do you think that addressing chemicals of concern in BATconclusions, and during the BREF process as a mandatory key environmental issue, could have an impact on the environment?** [Significant improvement; Moderate; Slight; No impact; Do not know; Not applicable]

48. **Are additional measures needed to support further alignment between IED and REACH, particularly for SVHCs?** [Yes; No] If yes, please specify. [open text response]

Yes.

- Negative BATs on the use of SVHCs would improve policy coherence and would help achieve the substitution target under REACH. However, it should be borne in mind that the IED refers to "hazardous" chemicals according to the very broad definition from the CLP regulation, which includes all classified hazards, but is not restricted to those. As opposed to this, SVHCs under REACH are much narrower and are often interpreted as only those included in the candidate list for authorisation, i.e. those meeting the criteria in Reach Art. 57. The IED should also systematically address all chemicals of "concern" (see www.subsport.eu/listoflists). This should also consider substances relevant to workers protection.
- Annex III point 2 refers to "use of less hazardous substances" but should be updated to mean "substitution of chemicals of concern, either in use or production"
- "Alignment" to REACH is further not welcome and not the role of the IED, since BAT aim to set the state of the art for conducting a certain activity, whilst REACH is aiming to substitute the 'worst of the worst' (SVHC) chemicals. REACH follows predominantly a (human and environmental) hazard approach in terms of toxic impact but would not cover the wider environmental impacts of chemical production (e.g. feedstock input), or output related impacts (e.g. resource stream contamination, benign by design and wider sustainable chemicals principles).
- the IED /BREF should also cover the impacts from products use (diffuse emissions). Potential added value of the IED / BREFs would be to prevent the production of chemicals of concern e.g. PFAS, pesticides or biocides and to also address chemicals of concern that may not be put on the EU market (REACH) but are still produced in EU for export (put in the global market). A particular focus should be made on the substance groups of olefins and aromatics.
- the IED permitting regime could provide guidance on the cocktail effects / whole effluents assessment approach in permitting
- The IED should also set standards to ensure water protection for a large group of substances i.e. setting requirement on bioelimination/ toxicity of the effluents (see further above mentioned points, under the WT BREF / indirect waste water release in Q 21). This could be especially relevant for pharmaceuticals.
- The identification of substances of concern occurring in the environment / humans and tracing back to their origin and setting pollution prevention methods at source should be strengthened. There is a lack of policy integration in relation to watch list (PS/PHS) EQS substances and stricter BAT measures, when relevant. A potential approach could be to require that any industrial wastewater shall have allowable emissions (BAT-AELs) set on the technical feasible levels so to achieve the Maximum Allowable Concentration (MAC) level "at

the gate" of when the wastewater leaves the industrial site, irrespective of the discharge being direct or indirect (e.g. via an UWWTP).
Where the effluent contains re-calcitrant pollutants that the UWWTP cannot effectively abate (e.g. heavy metals and any other EQS) the EQS / IED and BAT Conclusions within the BREFs shall make sure that indirect discharge via the UWWTP is prohibited. (See other points linked to indirect releases of wastewater stated earlier).
For the "water" compartment point 5 refers to "persistent hydrocarbons and persistent and bio-accumulable organic toxic substances". We question the validity of cumulative hazard criteria being applied, these should be alternative criteria ("and' to be replaced by "or"). The current wording is likely inspired by the PBT concept in REACH Annex XIII. However, vPvB substances should also be added for consistency with REACH.
Furthermore, substances with any of the following properties (persistency, mobility or toxicity) warrant caution and should be regarded as sufficient for hazard identification by many independent experts and should be listed as well e.g. PFAS, carbon-free polymers.
Referring only to the organic origin of the substances not its properties of harmful effects may also be too limitative, for instance to capture micro-pollutants that do not fall in another category.
No link is made to 'watch list' substances under the Water Framework Directive (new entries) nor other active pharmaceutical ingredients, other pollutants that do not possess rapid bio-elimination potential in water. The IED should also list relevant substances that are covered under Directive 2006/118/EC on the protection of groundwater against pollution and deterioration (Groundwater Directive) as well as those listed under the revised Drinking Water Directive 2020/2184. Stricter emission limits to water should be considered if the recipient is a drinking water source.

- An inter-active link should therefore be made to other source or thematic legislation e.g. CLP/REACH, Water Framework Directive, Groundwater and the Drinking Water Directive, Seveso III etc, including for substances emitted to air that can affect water quality by atmospheric deposition.
- The reporting of the use of chemicals, their technical function and fate should be better integrated between EU reporting systems (see link section 5).
  In this respect there seems to be a lack of considering the major accidents prevention framework directly relating to industrial activities (point sources) e.g. **the Seveso III Directive**, whilst referring to "safer" chemicals in the introductory text of the options considered.

A BAT on Chemical Management System (CMS) has been introduced in the FMP BREF which could evolve in a standard BAT for other BREFs. To make this BAT more effective the EEB suggested at the final meeting that information supplied to the CMS should be supplied in a standardized electronic format (at EU level) so to enable better exchange on and tracking of progress for improving the overall performance, in particular if that inventory is to be interactive with other databases on chemical management (e.g. ECHA -SCIP, eSPIRS etc). CMS related reporting and enforcement activities to enable real-time verifications and interaction with relevant developments in EU chemicals legislation (e.g. change in CLP hazard classification, substances being listed for regulatory actions etc), would be possible through and electronic reporting system (see section 5).

The Seveso III Directive also requires the establishment of an inventory of dangerous substances and the operator to provide a Safety Report (Article 10), along the requirement to establish a Major Accidents Prevention Policy (MAPP) which shall list the operator's commitments towards "continuously improving" its performance so to ensure a high level of protection. The TSS questionnaire does not indicate on how the provisions of the Seveso III Directive could be strengthened

or vice-versa so to improve the risk reduction at source, fully aligned to the IPPC/IED spirit to prevent pollution at source. It rather addresses the question from an "overlap" point of view.

Synergies explored are rather limitative and relate to liability (when damage has been caused) rather to preventing impacts or non-compliance. In many cases IED activities are also Seveso III Directive facilities. We see a need to make better use of the provisions and data generated under those frameworks aimed to prevent pollution at source (throughout the lifecycle of the substances used or produced). A change in hazard classification (CLP) also has important implications as to legal regimes and implications for the circular economy agenda (mainly linked to 'waste' classification).

See notably suggestions referred to under Q34: the IED would bring added value to require the lower tier Seveso III facilities to establish a Safety report as well. This suggestion is aligned to the general principles governing the basic obligations of the operator, namely that "the necessary measures are taken to prevent accidents and limit their consequences". The requirement to implement the key Seveso III provisions could therefore be required through the IED review e.g. requirement to establish a Safety report also for lower tier installations, more clarity as to the content and commitment under the MAPP for continuous progress and improved safety distances. It would be useful to identify why there is the presence of a dangerous substance in the first place, what technical function does it deliver, what is the use of that substance, does that substances serve an "essential use" for society? Enabling the grouping of substance categories as to whether these are "essential" and not substitutable by alternative options will also be an important factor for readiness level of acceptance of risks by the public.

A possible categorization in consideration under the REACH substitution process in relation to chemicals is provided as an example of a possible approach (source: draft ClientEarth factsheet on essential use of hazardous chemicals, to be published). Since pictures cannot be submitted within this survey here a basic explainer of the concept will follow:

The main assessment criteria for substance use and substitution are scaled to high/moderate/low impacts.

In relation to criteria a) 'need for performance' (technical function) that relates to end-use function.

high- if function cannot be delivered) / moderate if less effective delivery (durability, availability, efficacy) / low if negligible impact on function or marginal function may be significantly impaired.

In the recent ECJ judgment on the authorisation of lead chromate pigments C-389-19 (paragraph 56) it was clarified that it cannot be a condition that the alternative must have the same performance - fulfilling the same function would be enough.

Criteria b) is about the importance of "end use".

'High' if it is for life saving applications, indispensable for effective and fair provision of food, water, housing, critical infrastructure, traditional culture whilst

'Moderate' would-be direct enabler of critical end-use whilst 'low' importance relates to luxury, convenience and decorative uses or applications.

The operators would thus first need to make the case that there is a high importance of end-use as part of the MAPP / CMS elaboration and that no suitable alternative (also including non-chemical methods) are available. For the "essential use/activities" concept please refer to Q1.

Better reporting also improves the actions under the Circular Economy agenda (see section 3), notably to identify better contaminants – even if so far this only refer to the SVHC category – in the resource

streams. Reported data shall enable a user-friendly extracts so to enable assessment of quantities and types of substance of concern per type of output products, share of secondary raw materials. Normally the operators should report in accordance to the EU waste catalogue classification entries, which should enable a better disaggregation of the information supplied (also for the purpose of tracking the fate of chemicals).

- As mentioned under Q23, there is incoherence in the application of the IED with regards to the WFD linked to e.g. indirect emissions and application of IED Art.18. The priority substances, and in particular the priority hazardous substances must be subject to tight controls. Art 16 of the Water Framework Directive specifies that discharges, emissions and losses of priority hazardous substances should be ceased or phased-out. It is difficult to see this happen if the BAT-AEL either allow emissions to continue, even at low concentrations, or if indirect discharges are not taken into account.
- The fitness check of the EU water legislation concluded that the water legislation is "broadly fit for purpose" with room for improvement on some areas, two of which were chemical pollution and integrating water into other policies. After the completion of the second cycle of RBMPs, less than 40% of EU's surface water bodies were in good chemical status. In most Member States, it is just a few substances that are the cause for the failure of reaching good chemical status, in particular, mercury. Thermal combustion plants were responsible for 61% of mercury emissions to air (15.6 tonnes per year) in the EU28 reported to PRTR in 2017. Atmospheric deposition of mercury is one of the main significant pressures on surface water bodies according to EEA that has also pointed out that further effort is needed to reduce emissions of mercury as a result of atmospheric emissions by the energy sector. Permitting should consider all the sources (pathways) and contributing emission sources (domestic, stationary, diffuse etc).
- Based on other points made earlier we also believe that the UWWTP Directive is to be revised / BAT should be set on waste water treatment, irrespective on whether that plant is operated independently or not.

Source: EEA Report No 7/2018 European waters - Assessment of status and pressures 2018 https://www.eea.europa.eu/publications/state-of-water and EEA report No 18/2018 Chemicals in European waters https://www.eea.europa.eu/publications/chemicals-in-european-waters

2 Problem 2: Climate crisis is happening

(Agro-)industrial plants under the scope of the IED include energy intensive plants that are a major source of GHG emissions. The main current EU legislation to reduce such GHG emissions is the Emissions Trading System (ETS), which covers most but not all GHGs. Because many IED plants are also covered by the ETS, the reduction of GHG emissions has not been a primary objective of IED design and implementation. In particular, GHG covered by the EU ETS and emitted by installations within the EU ETS are not regulated under the IED (owing to the exemption allowed under IED Article 9(1) and to some extent under IED Article 9(2)). Nevertheless, IED implementation has to some extent addressed GHG emissions, for example through the setting of BAT and associated performance levels (BAT-AEPLs) on energy efficiency or through BAT on the substitution of fluorinated GHGs. In a few cases, BAT-AELs have been set for GHGs not covered by Annex II of the ETS Directive.

With the current approach:

- BAT conclusions on energy efficiency (and hence in most cases, related GHG reductions) can be disregarded by competent authorities for installations falling under the ETS
- GHG emissions and mitigation are typically omitted from BREF reviews irrespective of whether the installations and emissions are covered by the ETS

In the medium/ long-term, avoiding interaction between the ETS and the IED will become challenging, and may be increasingly unrealistic: future breakthrough technologies will often contribute to both carbon neutrality and pollutant emission reduction. Once viable, such technologies would qualify as BAT, and the IED would foster their roll-out and promote a level playing field. In other cases, decarbonisation techniques may have negative impacts on pollutant emission. Thus, there are potential synergies between the IED and the ETS and options will consider how best to optimise them.

Accordingly, options are being considered as to whether or not IED permit conditions should include GHG ELVs and/or energy efficiency standards (through binding BAT-AEPLs), including:

- Deleting the provision that exempts (agro-) industrial plants from setting GHG ELVs and energy efficiency requirements in permit conditions if they are regulated by the EU ETS (IED Article 9)
- Identifying direct and indirect GHG as mandatory key environmental issues (KEIs), so that GHG emissions are considered when identifying BAT alongside with pollutant emission
- Establishing a long-term permit review obligation (e.g. by 2035) focusing on the capacity of the concerned installations to operate in accordance with EU's carbon neutrality objectives.

Added to this, some (agro-)industrial activities generating GHG emissions fall outside the current scope of the IED or fall below the IED's current production capacity thresholds. Examples include intensive farming (e.g. cattle farms), mining / quarrying industries and landfills.

Questions related to extension of the scope of the IED are presented in Problem 1.1 – The environment is polluted. Questions related to setting binding energy efficiency BAT-AEPLs are presented in Problem 3 – Natural resources are being depleted. Questions on deep transformation of industrial sectors (most likely reducing GHG emissions as well as abating other pollutants, and adopting emerging/ novel techniques) are covered in Problem 4 – state of the art.

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55. **What impact do you think including GHG in the BREF process as a mandatory key environmental issue (KEI) would have on reducing GHG emissions?** [Significant improvement; Moderate; Slight; No impact; Do not know; Not applicable]

56. **What added value for reducing GHG emissions from (agro-)industrial plants that are NOT covered by the ETS would the following measures have?** [Significant decrease; Moderate; Slight; No impact; Do not know; Not applicable]

- Set GHG ELVs and energy efficiency requirements in permit conditions (in accordance with BAT-AEL and/or BATAEPLs adopted by BAT Conclusions).

- Establish a long-term permit review obligation (e.g. by 2035) focusing on the capacity of the concerned installations to operate in accordance with EU's carbon neutrality objectives

57. **What added value for reducing GHG emissions from (agro-)industrial plants that are covered by the ETS would the following measures have?** [Significant decrease; Moderate; Slight; No impact; Do not know; Not applicable]

- Set GHG ELVs and energy efficiency requirements in permit conditions (in accordance with BAT-AEL and/or BATAEPLs adopted by BAT Conclusions). This includes deletion of IED Art. 9

- Establish a long-term permit review obligation (e.g. by 2035) focusing on the capacity of the concerned installations to operate in accordance with EU's carbon neutrality objectives

58. **What additional measures can be considered within the IED to accelerate direct and indirect GHG emission reductions from (agro-)industrial plants?** [open text response]

Whilst all the above-mentioned options may deliver significant improvements, the main factors depend on the ambition level of the BAT-C themselves and what the carbon neutrality objectives entail concretely. For the EEB we expect Chapter III (and Annex V) to be replaced by a "climate ambition and 2040 carbon neutrality" chapter. This chapter should provide for clear forward-looking measures, milestones and targets for relevant industry sectors, a detailed action plan for how the carbon neutrality and zero pollution ambition should be implemented for industrial activities.

That should comprise the following: provisions aimed to ensure the combined approach therefore amending the EU ETS Directive, in particular Article 26 which inserted the current limitations in the IED (Article 9), the Emissions Performance Factor (EPF) and GHG performance standards, fossil fuels switch obligations, electrification obligations and other targeted action on Energy Intensive Industries in particular such as through dedicated BAT-C on decarbonisation.

We would like to recall the following background statements already submitted in the first TSS on the IED review: The prohibition in Article 9(1) on including limits on greenhouse gas (GHG) emissions in IED permits is unhelpful and unnecessarily restricts the options available to Member States with respect to undertaking measures that promote decarbonisation of industrial installations. Sectors covered by the IED are the largest GHG emitters in the EU by a considerable margin – in particular, the energy and industry sectors. There is no duplication of regulation (vis-a-vis the ETS Directive) because the approach of both frameworks are complementary and follow a different approach. The EU-ETS is a market-based instrument aiming to set a price on carbon whilst the IED and BAT concept seeks to base environmental performance on the basis of what is technically feasible by the operators to prevent that pollution. However, the ETS Directive has not been effective in radically decarbonising the energy and industrial sectors in the manner required to meet Paris Agreement objectives and avoid catastrophic climate change. Especially the lack of decarbonisation in energy-intensive manufacturing industries (steel, cement, chemicals...) covered by the EU ETS is a major cause of concern.

Art 26 EU-ETS Directive, which introduced the same provisions in Art 9 in the IED is severely restricting the ability of Member States to set further measures on the EU's largest GHG emitters and is therefore to be revised in both frameworks. Indeed, this is recognised in Recital (10) of the IED – that Member States may implement additional GHG emissions requirements, provided these are compatible with the Treaties and notified to the Commission.

Further, the provision in the IED Art 9(2), leaving the energy efficiency performance requirements "optional" for permitting authorities to implement, is both counter-productive to the IED and ETS goals as well as inconsistent with the IED objectives and BAT criteria. BAT-AEE(P)Ls have been laid down in

BREFs, Art 9(2) of the IED as it stands provides a counter-productive opportunity and incentive to ignore those BAT-based standards. Energy efficiency is generally a multi pollutant mitigation technique and in the interest of the operator as well as of the environment.

The main argument of industry against addressing GHG in the BREFs or even laying down energy efficiency standards within the IED is by no means "double-regulation" (with EU ETS), since the EU ETS sets a price signal on carbon pollution which is not based on the BAT concept. In many cases there is not even a "double regulation" due to significant exemptions and generous compensation schemes (free allocations, state aid) and irrespective of the previous scope limitation the EU-ETS Directive is only partly internalising the climate damage costs, which are evaluated way beyond 100€/tCO2eq. See more backgrounds around these aspects in the joint EEB-CMW briefing http://eipie.eu/storage/files/A_New_Industry_Framework_For_Achieving_the_EU_Green_Deal_Zero_Pollution_Goal.pdf .

Recent studies including from DG Move suggest that the central GHG damage cost estimate is 105€ whereas the high estimate is 199€ in the short to medium term, whilst the longer-term climate change avoidance costs will be at 283€/tCO2eq (central) and 524€/tCO2eq (high estimate) for the 2040-to 2060 term, when the provisions of the revised IED will take effect (see Table 33 in https://www.eionet.europa.eu/etcs/etc-atni/products/etc-atni-reports/etc-atni-report-04-2020-costs-of-air-pollution-from-european-industrial-facilities-200820132017)

A much more effective approach would be to set performance-based standards on GHG emission reduction / prevention combined with market-based instruments, such as EU-ETS but also in combination with further economic instruments.

The IED is based on the objective to prevent pollution from industrial activities at source in an integrated approach and based on technical feasibility options. Climate protection is not yet systematically addressed and therefore needs to be explicitly added: in its objectives of the IED, GHG should be added in the list of polluting substances). Some positive examples of BAT on GHG mitigation have been set, either directly or indirectly (e.g. fuel choice, energy / resource efficiency, methane emissions, substitution of refrigerants with ozone depleting or global warming potential, process switch to electrification etc).

The main limitation due to the current BAT approach is rather connected to economic viability / profitability that are linked to the definition of "availability" within the Art 3 definition of what constitutes BAT – therefore looking backwards as to current techniques being used. This limitation is to be addressed within a more forward looking BAT definition (see points made in last Question on the BAT determination method).

Many promising techniques have already been identified to make this decarbonization path a reality, the critical aspect here is time of delivery and required scale of GHG emission reduction. The EEB would in particular like to stress again the role of (non-combustion type) of renewables penetration (see notably the Paris Agreement Compatible Scenarios – PACT https://eeb.org/library/building-a-paris-agreement-compatible-pac-energy-scenario/) .

In a recent study of WOODs / IEEP "Wider environmental impacts of industry decarbonization" (Ref ARES (2021) 1597078 of 3/03/2021 – Figure ES 1) many options have be identified which show a technology readiness level of TRL 5 (validated in relevant environment) and below.

Fuel switching is very promising and available technique whilst alternative processes + source (electrification) would require more CAPEX but both pathways have significant pollution

prevention/reduction potential in all IED sectors. As the product benchmarks defined by the EU ETS Directive are set at the level of the current 10% best performing installations, there is a clean lack of incentive delivered by the EU ETS to deploy these GHG abatement options in time and at the required scale.

If the IED is to promote and drive for deep transformation, meaning a process switch (e.g. electrification of crackers/furnaces or DRI based on green hydrogen for steel making) then it needs to also address the main barriers and clearly set the direction to which pathway should be considered as 'BAT', in accordance to the BAT criteria set in Annex II, complemented with the GHG pollution prevention criteria to be complemented and with concrete actions that ensure by latest 2040 the EU industry becomes carbon neutral.

This will ensure that a given pathway (option) will not be promoted for the sole reason of climate mitigation but to the expense of negative impacts on water consumption, resource consumption or other upstream impacts, thereby not ensuring the overall IED goal to promote a high level of environmental protection taken as a whole is preserved.

The new "climate ambition and 2040 carbon neutrality" chapter should set forward looking BAT requirements that would have to be complied with by the industry by the giving timeline. This direction is needed considering that investment cycles required for this transition are in average 20 years and more. If the EU wants to be on track and lead the way to achieve carbon neutrality by 2050, this means that concrete action and investments need to be made in the next years, there is no more time to waste.

The IED should promote and incentivize the deep transformation but cannot do this alone, the EU-ETS Directive support schemes need to be adapted to promote this transition, notably through the Modernization and Innovation Funds. There is also a need for demand side pull which could be satisfied by the upcoming sustainable products policy initiative, which should link back and promote those operators implementing forward looking "zero pollution ambition BAT" (meaning zero pollution performance, including carbon neutrality) .

In the same time the market-based approach should work towards incentivizing the deep transformation, based on a proper cost internalization and a meaningful carbon price. The EEB therefore proposes to adapt the EU-ETS carbon leakage benchmarks system for the purpose of promoting the "zero pollution ambition BAT" in relation to the GHG emissions aspect.

We would like to highlight the following policy suggestions for the "**climate ambition and 2040 carbon neutrality" safety net chapter:**

1.**The combined approach requires the introduction of an 'Emission Performance Factor' (EPF) to act as a performance-based multiplication factor of the EUA ETS price.**

The main aim of the EPF is to incentivize faster the required transition to cleaner production and decarbonization, for this to happen the carbon price set under the EU-ETS needs to exceed a minimal level of 100€/tCO2eq. The EPF is a BAT performance-based multiplication factor to be applied to the purchasing of EUA allowances and will correspond to the gap factor compared to the EU-ETS benchmark level – defined by the experts under the Taxonomy Technical Screening Criteria for Climate change" (here TEG Taxonomy climate) https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/200309-sustainable-finance-teg-final-report-taxonomy-annexes_en.pdf , which should be subject to the normal price level versus the actual GHG emissions performance.

This implies that the minimal level of expectation for the industry should be set to this benchmark and those should be liable to pay the regular carbon price (unless the operator does not emit GHG).

The current EU ETS benchmarks are based on a 'BAT inspired" concept, since these correspond to the best 10% reference installations operating under economically viable conditions, however this does not mean that those installations do not emit GHG, currently the majority (over 90%) of their emission are "covered" by free emission allowances and therefore exempt from the EUA price signal.

The generated extra resources should be reallocated to the Modernization and Innovation Funds.

It is crucial that the ETS (adapted) performance benchmarks relate to the entire sectors / activities life cycle impacts and are not limited to the most pollutant processes only (e.g. clinker benchmark for cement). This is crucial in the case of GHG emissions, where performance requirements including both high-carbon and low-carbon production drastically reduces the benchmark performance required. A further negative example is for iron and steel production routes which is split / differentiated by which process is being used and also for the outputs types (high alloy and carbon steel).

The general average is BF-BOF 1.9t, DRI 1.1t and EAF route 0.4 tCO2e/t. The revised benchmark levels (February 2020,EU-ETS benchmarks) for iron and steel manufacturing are https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021R0447&qid=1617373712070&from=en

- Hot metal = 1.288 tCO2e/t product
- Sintered ore = 0.157 tCO2e/t product
- Iron casting = 0.282 tCO2e/t product

- Coke (excluding lignite coke) = 0.217 tCO2e/t product
- Electric Arc Furnace (EAF) high alloy steel = 0.268 tCO2e/t product
- Electric Arc Furnace (EAF) carbon steel = 0.215 tCO2e/t product

From the iron and steel example it is clear that the primary steel making is in the range of 1-2t CO2/t product whilst it is 4 times less with the secondary steel making from scrap (EAF) route.

The main argument of the iron and steel industry is that certain (high resistance) steel grades are needed and cannot be produced by the EAF route. This assumption is to be soundness checked and potentially the IED could define "essential uses" where this special steel category is needed in priority / essential use applications and hence a higher benchmark or "discount" would be acceptable to serve this need (see Q1 and Non-toxic environment chapter on the essential activities use concept) . Where this justification cannot be provided the default benchmark should be set to the best in class i.e. 0.215tCO2e/t product (all steel).

This is what we call the differentiated pricing approach on 'essential activities', as provided in the EEB roadmap to EU-ETS review submission https://eeb.org/library/inception-impact-assessment-of-the-revision-of-the-eus-emissions-trading-system-eeb-comments/ some industrial activities that are considered as life-essential for public interests and for which substitution methods are not technically possible or economically bearable, could receive a "discount" to the EUA pricing mechanism e.g. drinking water purification and supply industry or organic food production.

For the Cost Benefit Assessment, a shadow cost of at least 100€/CO2 emitted should be assumed in all cases (see other input in Art 15.4 as to CBA). This could replace the current provision for "energy modernisation" and is built on the "Modernisation fund" provision, currently too focused on energy generation and not considering the wider EU Green Deal and Zero Pollution ambition. Any reward / resource allocation scheme should be proportionate to efforts made at country level e.g. if the country

overshoots its Energy Efficiency and Renewable Energy Source penetration targets, the sector is beyond Union Standards – such as the IED BAT- and benchmark performance, in that case the country should be able to compensate efforts with priority access to the Modernisation and Innovation fund payouts. this would re-invest resources to real (breakthrough) and deep innovation and provide a reward system to frontrunners that made bigger efforts.

The industry relying on finance support for the transition should then be able to re-use those resources to finance the transition in the most cost-effective way, this means need for forward looking and comprehensive criteria for priority access to zero pollution ambition solutions and through public tendering procedures to enable competition of various projects against the "best value for money" test. A similar system exists in Norway through the NOx charge system.

Only when a member state can provide evidence that an environmental pollution tax system is in place which would lead to the same effect (internalisation of externalised costs, including due to GHG emissions) the operator may get dispensed from this multiplication factor. The EPF could look as follows:

Directive 2003/87/EC is amended as follows:

"As from 1st January 2030, Member States shall apply an emission performance factor (EPF) set out below, which shall apply as a multiplication factor to the purchasing of any European Union Allowance (EUA) unit price referred to under Article 3(a) of Directive 2003/87/EC:

$$EPF = \frac{EP\ actual}{EP\ ref\ base(EU\ benchmark\ values)}$$

EPF = Emission Performance Factor;

EP actual performance based on the same format of the EU benchmark values

EP ref base: Reference base set in the EU benchmark values that are based on the best-in-class performance set in the Technical annex to the TEG final report on the EU taxonomy, unless a stricter level is defined in the most up to date EU ETS benchmark values

Strengthening the carbon market through a performance enhancing IED will make sure the most effective techniques are implemented so to prevent pollution at source, combined with a strong carbon market that will truly incentivize further progress (beyond established BAT).

This implies a deeper overhaul of the EU ETS system for legal consistency reasons, notably a strengthened emissions cap derived on the "as if assumed" performance levels of the whole sector in accordance to the benchmark evolving over time https://eeb.org/library/inception-impact-assessment-of-the-revision-of-the-eus-emissions-trading-system-eeb-comments

The new approach could focus as a start on the Energy Intensive Industries, since these industrial activities are those where the higher reduction gains can be achieved.

The Carbon Border Adjustment Mechanism currently in consideration should be adapted to include other environmental aspects and rather refer to a "pollution border adjustment mechanism" so to capture the other environmental media aspects (developed in the BAT requirements) but also to implement this EPF concept for imports of products or services subject to the revised IED so to ensure an environmental ambition level playing field at global level.

2. **the revised BAT / new decarbonization BAT Conclusions should demonstrate substantial contributions to achieving GHG emissions performance benchmarks representing the best 10% performance across all main production routes within a BREF document.**

This approach should act as a basis for supporting revision of the ETS approach to benchmarks, supported by the Best Available Techniques formalised/developed under the Sevilla process. Data exchanged for this purpose of benchmarking should be transparently available and exchanged via the information process under the Sevilla Process as well. Those should be expressed as tons of GHG per unit of production/useful output. This metric would also ensure that energy savings / energy efficiency techniques are properly implemented and accounted for, thus saving natural resources and improving the overall performance of the economy.

3. **Achieve at least 45% of renewables, annual average carbon intensity target values are set for the energy grid for various Member States with a linear degrease obligation** e.g. 50g/KWh by 2030, 40g/KWh by 2035, 35g/KWh by 2040 etc. Progress on this parameter will enable longer lead times or temporary relaxations as to other requirements set out in points 6 and 8 (fuel switching obligations for specific industry sectors) which may not yet be able to switch process to electrification, this is aligned to the "equivalence in the high level of environmental protection" concept set in the IED.

4. **minimal binding energy efficiency standards based on best-in-class solutions within a given industrial activity are set** (e.g. electricity, heat generation).

Big improvements could be gained through mandatory enforcement of energy efficiency standards at EU level. For example, as regards LCPs the different fossil-based combustion options show the following:

- The energy efficiency level for CCGT (CHP) is currently at 62.5% net (265g CO2/KWh) whilst in average performance levels is rather in the 45% range (440gCO2/KWh). Considering that those plants run on natural gas the CO2 emission prevention gains are considerable.
- State of the art lignite fired boilers reach 42-44% net efficiencies (~910g CO2/KWh) and hardcoal fired boilers can reach a net efficiency of 46% (~714g CO2 /KWh), recognised as BAT. The current average performance levels are respectively barely 35.4% for lignite (1100-1300g CO2/KWh) and 37.8% (~850-880g CO2/KWh) for hardcoal boilers. Any incremental change (3% is considered as generally applicable for all boilers) makes a huge difference in terms of avoided CO2 emissions per generated energy. The above information is based on information gathered within the LCP BREF review (Task Force on Energy Efficiency, EPPSA, EEB input, filled out questionnaires of reference plants, in-house research and is based on 2014 information)

Those standards have in the meantime evolved (see: 2017 LCP BREF) and energy efficiency benchmarks are more ambitious (44% net for lignite, 46% hard coal and >60.5% net for gas Combined Cycle Gas Turbines) which in the meantime increased to above 63% (e.g. Siemens Type HL Class Turbines 50Hz/60Hz).

Forcing stricter performance-based standards for greenhouse gas pollution/energy efficiency not only leads to incremental improvements for wider air pollution but also benefits resource consumption aspects as well as climate protection. For example, if Germany followed the Dutch example by requiring its coal operators to meet binding BAT-based energy efficiency levels, the German government could have forced a phase out of its pre-1990 coal/lignite boilers without any risk of biomass switching and costly compensation, as is currently envisaged.

The revised IED should therefore set the following

"The net electrical efficiencies of any combustion plant firing coal or lignite (alone or with other fuels) shall be

- ***a) at least 44% by 1st January 2030***
- ***b) at least 46% by 1st January 2035***

The levels are expressed as net electrical efficiency of useful output

c) ***For natural gas combustion in combustion plants exceeding a thermal capacity of 600MWth the minimal energy efficiency level is set to at least 61%, for existing plants to be met at the latest by 2035"***

Minimal binding energy efficiency standards that are based on best-in-class solutions should always be set within the BREF reviews and within the IED for energy intensive industries. Comparing with the "best in class solutions" for the same service would yield even higher effects, if the service assessed is "electricity generation" then the benchmark should be aligned to the renewable energy technologies options, which show much better efficiencies and pollution intensity performance.

5. Introduce GHG performance standards to achieve a complete 2030 coal phase-out in Europe and fossil gas phase out by latest 2040.

The revised IED should set a binding GHG emission performance standard (EPS) that should provide for a linear decrease obligation for all existing installations combusting fossil fuels.

The target level should be set to 0g CO2/KWh, and should be complied with by latest 2050

https://wwfeu.awsassets.panda.org/downloads/applying_eu_taxonomy___lessons_from_the_front_line_final.pdf

To ensure progress towards this target an interim EPS set to 100g CO2/KWh should be complied with by latest 2030.
https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/200309-sustainable-finance-teg-final-report-taxonomy-annexes_en.pdf

6. General fuel switching obligations with cascading use principles in the case of biomass need to be set

Leaving carbon intensive fuels in the ground is the most effective pollution mitigation strategy. Many BAT identify "fuel choice" as a primary technique (linked to air pollution in particular).

The IED should prohibit the combustion or bringing into the market of fuels with highest carbon intensities, based on the CO2 Emission Factor Approach. It is proposed to propose a first cut off point of 78kg CO2eq/GJ which corresponds to the combustion of diesel (light fuel oil) by 2030. The more ambitious cut off point set at 2040 for 40kg CO2eq/GJ would require mitigation measures to be taken in the case of natural gas combustion (the factor is 55,9kg CO2/GJ).

This proposal is aligned to the EEB-CAN-EU PACT scenario, which is based on 100% RES based system by 2040 https://eeb.org/library/building-a-paris-agreement-compatible-pac-energy-scenario/

In order to achieve the climate neutrality in a transitional phase, it is proposed to provide for a linear decrease obligation from 2030 to 2050, where the goal shall be 0kg CO2eq/GJ for any fuels burned and brought to the market.

The European Commission shall be tasked to review impacts, the methods and verification schemes and may exclude certain "minor" sources from this obligation. It may also exclude from the reaching of those factors the combustion of fuels for which there may be an overriding public interest and no technical abatement options that are economically viable, those findings should subject to review by the IED forum and the new Climate Panel.

"1. The resulting GHG emissions of any fuel used and produced shall not exceed 78kg CO2eq/ GJ output. This target shall be met by 1st January 2030;

2. As from 1st January 2040, the resulting GHG emissions of any fuel used, produced and put on the market shall not exceed 40kg CO2eq / GJ output;

3. During the period of 1st January 2030 to 1st January 2050, the resulting GHG emissions of any fuel used in the Union shall be a linear decrease, where the target of 1st January 2030 is 78kg CO2eq/GJ output and the 1st January 2050 target shall be 0kg CO2eq/GJ output.

4. The Commission shall conduct a review of all relevant impacts based on the criteria referred to under Article 3 of the EU Climate Law, in its assessment it may propose

- ***a) the exclusion of minor sources;***
- ***b) differentiated factors for activities where there is an overriding interest of the public to use those fuels and no technical feasibility to achieve those levels by the linear decrease trajectory;***
- ***c) detail the methods and verification schemes applicable.***

The report is shared with the EPCC for pre-consultation by [1st January 2025], after taking into account the comments of the [advisory body /ECCC – depending on final wording outcome in EU Climate Law], the final report is submitted to the European Parliament and the Council, accompanied, if appropriate, by legislative proposals. "

For biomass use, the IED should foresee a hierarchy of cascading use principles, it should clearly disfavour the use of dedicated bioenergy feedstocks to those generated from residues of biomass origin (e.g. biomass wastes such as from anaerobic digestion from sewage sludge, landfill gas) and also favour gaseous types over solid ones (due to air pollution impacts).

7. **Art 31 with the desulphurisation rate benefitting low grade lignite fuels is to be scrapped with immediate effect, the current Annex V ELVs need to be revised and be formulated by impact (emissions load, water use) versus useful energy output provided;**
8. **Dedicated decarbonisation and GHG mitigation provisions for the Energy Intensive Industries should be set as target level BAT, which could foresee differentiated compliance periods depending on scale of efforts to be made by the industry in terms of deep process switching:**

For iron and steel industry

- a preference for renewables based Electric Arc Furnace route for secondary metals,
- green hydrogen based primary iron and steel making

For chemicals industry:

- Electrification obligations for furnaces and crackers
- Enhanced catalysts or polymers, green/sustainable chemicals concept concretised
- CO2 free ammonia production

For cement industry:

- enhanced cement binders and substitution of cementitious materials
- CCS and renewable fuel switching obligations.

9. Circular Economy gains should also be integrated and could also be further developed through a dedicated circular economy and decarbonization/ GHG mitigation BAT reference document

Dedicated support for green hydrogen and sustainable biomethane will be needed. However, it must prioritise essential uses and not serve as a pretext to invest in natural gas grid infrastructures, which will lock-in emissions and compromise the Paris agreement (see EEB-CAN-EU PACT scenario precited).

The use of Carbon Capture and Storage/Usage should be determined in light of the high costs and technological risks. It is worth noting that the scale of the energy demand of the steel, cement and chemical industries will substantially decrease once the EU takes its commitment to a circular economy seriously. Overall, virgin materials demand will be reduced by phasing-out non-recyclable materials, and applying measures that promote longevity and re-use.

Moreover, materials from recycling generally require much less energy than virgin materials. More background:

'Destination: Climate Neutrality', https://eeb.org/library/destination-climate-neutrality/

EEB recommendations on EU Climate law, https://eeb.org/library/response-to-consultation-on-the-eu-climate-law/

joint NGO letter on Industrial Strategy https://carbonmarketwatch.org/wp-content/uploads/2020/02/green-NGOs-interservice-letter-vicepresident-.pdf

EEB-CMW briefing on IED-EU ETS interplay
http://eipie.eu/storage/files/A_New_Industry_Framework_For_Achieving_the_EU_Green_Deal_Zero_Pollution_Goal.pdf

EEB submission to inception assessment Roadmap on EU-ETS review
https://eeb.org/library/inception-impact-assessment-of-the-revision-of-the-eus-emissions-trading-system-eeb-comments/

Joint NGO letter on Renewables Energy Directive https://eeb.org/library/keep-the-renewable-energy-directive-for-renewables-ngo-letter/

Legal note on why a redesign of the IED and ETS relation is urgently needed,

https://www.clientearth.org/latest/documents/combating-climate-change-new-ied-and-ets-interactions-required/

The EEB would further wish to highlight issues in relation to F-gas and ozone depleting substances:

The F-Gas Regulation and ODS Regulation control the use of various fluorinated gases (F-gases), including hydrofluorocarbons (HFCs) and sulphur hexafluoride (SF6), and ozone-depleting substances (ODS), including chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs) and carbon tetrachloride (CTC). The overall regulatory treatment for each gas differs under the F-Gas Regulation and ODS Regulation.

HFCs: The F-Gas Regulation restricts EU HFC consumption via an HFC phase-down, which caps the maximum quantity of HFCs that may be placed on the market in any given year on a carbon-dioxide equivalence (CO2-e) basis (F-Gas Regulation, Articles 15-18.). It will be amended in the coming years

to also restrict EU HFC production to comply with international obligations under the Montreal Protocol. Because the HFC phase-down only restricts EU HFC consumption and production on a GWP basis, production and consumption in the EU are still allowed so while the global warming potential (GWP) of the refrigerants is decreasing over time actual tonnage of HFC production and consumption remains largely unaffected (European Environment Agency (2020). Fluorinated Greenhouse Gases 2020: Data Reported by Companies on the Production, Import, Export and Destruction of Fluorinated Greenhouse Gases in the European Union, 2007-2019 (EEA Report No 15/2020)).

In addition, the restrictions on HFC production and consumption are subject to exceptions, including for feedstocks uses (F-Gas Regulation, Article 15(2)(b)).

HFC producers report on quantities of HFCs produced, not on emissions at their chemical plants under the F-Gas Regulation (Article 19).

SF6: The F-Gas Regulation restricts certain uses of SF6, such as magnesium die-casting (Article 13). SF6 producers report on quantities of SF6 produced, not on emissions at their chemical plants under the F-Gas Regulation (Article 19).

ODS: The ODS Regulation prohibits CFC and HCFC production and consumption in the EU with the two notable exceptions being for use as a feedstock or process agent (ODS Regulation, Articles 7 and 8.)

ODS producers report on quantities of ODS produced, not on emissions at their chemical plants under the ODS Regulation (ODS Regulation, Article 27). The European Environment Agency (EEA) confirms that F-gases and ODS are still produced in significant quantities in chemical plants throughout the EU (European Environment Agency (2020). Fluorinated Greenhouse Gases 2020: Data Reported by Companies on the Production, Import, Export and Destruction of Fluorinated Greenhouse Gases in the European Union, 2007-2019 (EEA Report No 15/2020)).

To date, these chemical plants have remained largely in the shadows, releasing emissions of F-gases and ODS during the manufacturing process—both as by-product and fugitive—with few restrictions, if any. One well-known example is HFC-23 by-product 2 of 3 emissions during HCFC-22 production. Even though HCFC-22 is no longer used in the EU, HCFC-22 is produced for use as a feedstock. Indeed, several of the lower-GWP HFCs that are proliferating under the HFC phase-down often use HCFC-22 as a feedstock, including HFC-1234yf, HFC-32, HFC-227ea and HFC-125, as well as polytetrafluoroethylene (PTFE), also known as Teflon. European Commission (October 2015). F-Gas Regulation (Regulation (EU) No 517/2014): Technical Advice to Member States on implementing Article 7(2) - Discussion Paper. Pages 3-4.

https://ec.europa.eu/clima/sites/default/files/f-gas/docs/151023_hfc23_byproduction_en.pdf

But the problem is not limited to HCFC-22; many other examples of by-product and fugitive emissions of F-gases and ODS exist. (Touchdown Consulting (December 2012). Feedstocks Uses of ODS: Information Paper on Feedstock Uses of Ozone-Depleting Substances. Proceedings of the National Academy of Sciences of the United States of America (February 2021). Unexpected Nascent Atmospheric Emissions of Three Ozone-Depleting Hydrochlorofluorocarbons)

Taking the example of ODS, the EEA recently summarized how much ODS is still produced in the EU: In 2019, the production of controlled substances in the EU amounted to 178 316 metric tonnes, a 5% decrease compared with 2018. This included mostly HCFCs, CTC and TCA. Only minor quantities of halons, HBFCs and BCM, and no CFCs or MB, were produced. Expressed in ODP tonnes, production of CTC and HCFCs was largest (79% and 11% of total production, respectively). Controlled substances were produced largely for feedstock use inside the EU (85% of the produced quantity in metric tonnes). Production for feedstock use inside the EU decreased by 12% in 2019 compared with 2018, while

production for process agent use remained relatively constant. However, production for other uses, as accounted for in the estimation of the consumption of controlled substances increased by 44% in 2019 compared with 2018. This was mainly because the production of HCFCs, but especially of CTC for feedstock use outside the EU, increased (European Environmental Agency (2020). Ozone-Depleting Substances 2020 (https://www.eea.europa.eu/publications/ozone-depleting-substances-2020/2020)

Yet neither the F-Gas Regulation nor the ODS Regulation regulate by-product or fugitive emissions of F-gases and ODS at chemical plants in the EU. The F-Gas Regulation comes the closest with its general obligation in Article 7 to take precautions to limit emissions during production:

Article 7 Emissions of fluorinated greenhouse gases in relation to production

1. Producers of fluorinated compounds shall take all necessary precautions to limit emissions of fluorinated greenhouse gases to the greatest extent possible during: (a) production; (b) transport; and (c) storage. This Article also applies where fluorinated greenhouse gases are produced as by-products.
2. Without prejudice to Article 11(1), the placing on the market of fluorinated greenhouse gases and gases listed in Annex II shall be prohibited unless, where relevant, producers or importers provide evidence, at the time of such placing, that trifluoromethane [HFC-23], produced as a by-product during the manufacturing process, including during the manufacturing of feedstocks for their production, has been destroyed or recovered for subsequent use, in line with best available techniques.

Moreover, other regulatory frameworks in the EU also fail to regulate by-product and fugitive emissions of F-gases and ODS at chemical plants in the EU, notably the EU Emission Trading System (ETS). As a result, the EU is unable to monitor and mitigate emissions of these gases effectively, many of which are super greenhouse gases and also associated with other environmental impacts.

For these reasons, the Commission should make the following amendments to IED and E-PRTR:

Amend the IED to address emissions of F-gases and ODS at chemical plants in the EU. Currently, these gases are excluded from BREF/BAT discussions because they are not considered key environmental issues under the IED. This should be specifically addressed, namely through amendments to the IED itself to include an emission limit value (ELV) for emissions of these gases across all chemical plants in the EU, and in addition ensure that production is carried out under strictly controlled conditions, destruction efficiencies are in line with the best available techniques (e.g. at least 99.9%), monitoring methodologies are established and evidence of compliance is required.

Amend the E-PRTR to include reporting of actual by-product and fugitive emissions of F-gases and ODS at all chemical plants in the EU and ensuring public access to reported information.

3 Problem 3: Natural resources are being depleted

3.1 Clarify the binding nature of resource efficiency BATAEPLs

In some BAT Conclusions, resource efficiency BATs (aiming for efficient use of energy, water, and materials, including the minimisation of waste generation) are expressed as quantitative BATs (i.e. BAT-AEPLs), or are merely contained in narrative BATs. There are indications of heterogeneous approaches between and within Member States when implementing BAT-AEPLs in permits. Some Member States consider that the resource efficiency BAT-AEPLs do not have a binding value.

A general challenge for the setting of environmental performance benchmarks, but in particular for deriving quantitative resource efficiency BATs, is that certain information (e.g. production levels,

process or product specifications, or the resource use per unit produced) is considered by industry to be confidential business information ('CBI').

Options are under consideration to:

- Make the binding nature of resource efficiency BAT-AEPLs explicit in the same way as BATAELs for new permits and permit reviews
- Allow CBI issues to be surmounted when setting BAT-AEPLs via legislative means and/ or procedural means

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63. **Could you state good examples that you have come across regarding the drafting of permit conditions promoting resource efficiency/ Circular Economy, especially where implementing BAT-AEPLs?** [open text response]

We are not aware of any specific great examples.

Even via implementing such best practices, the promotion of resource efficiency / circular economy would still be compromised. The reason is that the current scope of BAT conclusions, and subsequently of permit conditions, is limited to the boundaries of a given installation.

The concepts of circular economy incl. energy, materials and waste flows do not always fit well within sectors' boundaries. As mentioned in the 2018 study 'Best available techniques and the value chain perspective', *if a process uses a specific raw material, the BREF should consider the impacts of mining and obtaining this raw material, as well as opportunities to recover this material from waste and products at the end of their life cycle.*

Furthermore, the EU industry is recognised in the EU Circular Economy Action Plan (CEAP) to have a key role in transitioning to a circular economy, particularly with regard to sustainable sourcing and cooperating across the value chain.

As said, the current scope of BAT conclusions, and subsequently of permit conditions, is limited to the boundaries of a given installation. Primarily, BATs themselves should be determined on a broader basis than is currently the case taking into account the entire linear and circular value chain related to a sector, as reflected in proposals made in this response regarding how the IED should better achieve zero-pollution ambition, and respond to the climate crisis (part 1 and 2 of this survey respectively). Determining value chain BAT, involves collaboration with upstream and downstream partners. As noted in the aforementioned study, *the focus should not only be on techniques that aim to limit the (direct) environmental impact of the installations themselves, but also on techniques that will reduce the environmental impact elsewhere in the value chain.*

Consequently, techniques that enable circular business models and the supply of a resource or product to the economy should therefore be considered as the most effective type of technique to be deployed in achieving this. By making better use of resources already in the economy through maintenance, repair, reuse, reprocessing and recycling, the contribution to environmental impacts by industry will reduce.

Cement production for example has great potential for use of recycled content, and the reuse of concrete products can reduce value chain industrial emissions. Through clinker substitution using industrial by-products and recycled concrete, the emissions of this part of cement production can be reduced in future by 30%-40%. Source https://www.globalcement.com/news/item/10486-ternary-cements-the-future-is-now

Even in industries such as steel where recycling rates are high, based on feeding scrap steel into steel production installations, the impacts are still high as this system of circularity remains largely based upon primary steel production as opposed to reuse of products, with recycled content use limited long-term due to degradation and impurities. By taking into account downstream reprocessing of used steel products (e.g. coating, trimming for new use), the supply of secondary steel products would reduce demand for primary production steel and therefore impacts the entire value chain more than recycling alone.

Maintenance and reuse offers the most benefits, but for industries where use of recycled content from different value chains remains low, these production processes should also be prioritised.

In conclusion, even the most 'well-crafted' permit conditions (under the current scope and format of their respective BAT-AEPLs) do not sufficiently promote resource efficiency and circular economy in the most impactful way.

We have not examples at hand but it would be useful for the permit application (or renewal) to demonstrate that an "industrial symbiosis" test has been carried out. **AEPLs could therefore be formalised and clearly conferred binding status, key performance indicators for resource efficiency that impact the environmental footprint of goods should be laid down.**

64. **To what extent do you think making the binding nature of BAT-AEPLs in BAT Conclusions explicit for new permits and permit reviews would impact on resource management at (agro-)industrial plants?** [Significant improvement; Moderate; Slight; No impact; Do not know; Not applicable]

- On energy efficiency (specific energy consumption)

Moderate to significant, as energy efficiency largely relies on actions taken within the system boundaries of a production process. The implementation of BAT-AEPLs addressing how energy can be used and recirculated in production processes, as well as BAT regarding the source(s) of energy need to be explicitly and firmly demanded. If strengthened significantly, and requirements well developed, this approach could be more effective than simple GHG emission limit-values. This would be dependent on the BAT-AEPLs being more explicitly binding (see earlier points).

Furthermore, the inclusion of CO2 levels, associated with both 'BAT on energy sourcing', as well BAT on energy consumption (that would be 'translated' into C02 ELVs in the permit conditions), would further help improve the overall energy efficiency. *See section 2 for more information on addressing the climate crisis through integration of GHG emissions.*

However, if considered more broadly as part of the supply of goods to the market, and the processing of products and materials, energy consumption is far lower for inner-loop supply chains involving the maintenance, repair, reuse, reprocessing and recycling of industrial products and materials, and thus not involving energy-intensive primary production and resource extraction prior to this. Consequently, broadening the scope and taking into account the entire value chain would be the most effective way at reducing energy consumption of industrial installations across Europe.

- On water efficiency (specific water consumption, specific waste water generation)

Significant.

Aim at improved coherence among water and industrial / energy policies:

The energy sector in particular is a large water user, accounting for around 18% of water use in the EU (https://www.eea.europa.eu/data-and-maps/indicators/use-of-freshwater-resources-3/assessment-4).

Furthermore, to be reminded that climate change is predicted to increase pressure on water resources and hot and dry summers have already resulted in several occurrences of decreased output of coal, nuclear and hydropower over the past decade.

Despite this, EU industrial and energy policies do not explicitly take into account water use, as pointed out by JRC (please see the link to the EC fitness check of the EU water policy: https://ec.europa.eu/environment/water/fitness_check_of_the_eu_water_legislation/documents/Water%20Fitness%20Check%20-%20SWD(2019)439%20-%20web.pdf, where it was concluded that there has been insufficient integration of water protection in energy policies).

A report by EEB showed, the water-intense coal industry is benefitting from reduced or non-existing water fees in Germany, Poland and Czech Republic, thereby lacking incitements for efficient water use. While energy efficiency is the first step to reduce the energy sectors water use, BAT-AEPLs present an opportunity to set water efficiency standards for energy production. https://ec.europa.eu/jrc/en/publication/consumptive-water-footprint-european-union-energy-sector and there has been insufficient integration of water protection in energy policies as concluded by the EC fitness check of the EU water policy. The WFD includes instruments, such as cost recovery to incentivise efficient water use (by implementation of adequate prices for water services). However, as a report by EEB https://eeb.org/library/mind-the-gap-report/ showed, the water-intense coal industry is benefitting from reduced or non-existing water fees in Germany, Poland and Czech Republic, thereby lacking incitements for efficient water use. While energy efficiency is the first step to reduce the energy sectors water use, BAT-AEPLs present an opportunity to set water efficiency standards for energy production. https://eeb.org/library/mind-the-gap-report/ showed, the water-intense coal industry is benefitting from reduced or non-existing water fees in Germany, Poland and Czech Republic, thereby lacking incitements for efficient water use. While energy efficiency is the first step to reduce the energy sectors water use, BAT-AEPLs also present an opportunity to set water efficiency standards for energy production.

Unfortunately, dedicated water use benchmarks are rather seldom in the existing BREFs. Only 17% of the BAT-C contain dedicated requirements on efficient water use (mainly water emissions and end of pipe) whilst BAT on water use reduction at source are very seldom set (20 BATs out of 850, according to the COM consultancy report (Report on IED contribution to water policy, 2018: https://circabc.europa.eu/sd/a/af2ff560-431b-4b61-b318-4543a9b176ff/Summary%20on%20IED%20contribution%20to%20water%20policy.pdf). For the FDM BREF, those have been declared as "indicative" due to CBI concerns by the industry. The ranges are also very wide.

Aim at improved data gathering and reporting infrastructure:

We further strongly agree with the suggestion from the COM consultancy report that a deeper data gathering exercise should be made in order to rank industrial performance, not least the example mentioned on the share of different cooling systems used by LCPs (per type of fuel).

Water use standards shall be an integral requirement of the resource efficiency aspect and the general obligations shall explicitly use reduction at source (e.g. in Articles 11 and 12), require for water efficiency and cascade of (re)use of water in the industrial activities. This requires an improved reporting infrastructure (see section 5).

There are currently data gaps regarding water abstraction for the energy sector in Eurostat data, an issue which has also been identified by JRC (Medarac et al 2018, Projected fresh water use from the European energy sector), due to some countries (e.g. Germany) not providing data on a yearly basis. Additionally, the fact that mines are not covered by the IED, and fuel production (e.g. lignite mining) is

water-intense, the full picture of the water use by the energy sector is not reflected if water abstraction data is only presented as per "electricity generation – cooling". A more complete picture would include also water abstraction in the fuel production stage.

BAT on water use intensity standards also should be set, the EU Ecodesign approach would be very useful to apply in this context so to identify the current benchmark level for a given sector. Here again the value chain approach is important since certain practices may also affect the water resources in an indirect way (e.g. discharge volumes and pollution load) or water use footprint embedded in the outputs. Considering that 90% of our economy depends on water it deserves the proper protection and decisions will need to be taken as to priority access of a finite resource, including for industrial applications.

Dedicated water quality safety net chapter needed:

The EU should learn from other countries where water scarcity is being dealt with and standards set for industrial activities e.g. China and India . The EU can also build on the recent water reuse regulation and water use needs to be systematically considered in any BREF review (KEI). For important water users and industrial processes (in particular mining, cooling, food drink and milk industries, etc) the IED could provide in a dedicated water quality safety net chapter with requirements as to expected water intensity benchmarks per production outputs. In this context the future role of thermal combustion techniques needs to be thoroughly questioned. It should also require mandatory reporting and improved transparency on the water use – types, amounts etc (see section 5). However, it will remain important to consider water efficiency standards in the context of ecologically sustainable river basin management to ensure that "saved" water is allocated to support ecosystem services to economy and communities as well as supporting biodiversity.

The EEB supports similar positions expressed by other stakeholders along those points, notably by WaterEurope https://watereurope.eu/wp-content/uploads/WE-Position-Paper-Industrial-Emissions-Directive-1-1.pdf

- *On material efficiency (specific materials consumption, specific waste generation)*

When focusing on primary production, which has the largest impacts on resource and material consumption, this would have a significant impact. However, relative to potential improvements in economy-wide material efficiency concerning industrial products and corresponding waste, this would have a moderate - slight impact. Although resource/material consumption and waste generation can be reduced to mitigate impacts of sector/industrial activity, total material consumption and waste generation across the entire economy should also be tackled outside of the system boundary/in the market, where industrial products are used and consumed.

To reiterate, tools within the IED should be adapted to contextualise/scrutinise primary production in a way that will foster circular value chains and better resource efficiency downstream through maintenance, repair, reuse, reprocessing and recycling of industrial products and materials. Making BAT-AEPLs conclusion explicit in permits is a small step, but a change to the scope of the IED that enables BAT-AEPLs to be far more stringent would represent far greater progress in tackling material efficiency throughout the entire economy.

65. **Where quantitative BAT-AEPLs are not reflected in quantified permit conditions, what are the reasons?** [open text response]

The lack of quantified permit conditions (based on quantitative BAT-AEPLs) can be largely attributed to the lack of explicit provisions in the IED, prescribing their inclusion as part of permit conditions: in IED Article 14(1)(a) the inclusion of ELVs (based on BAT-AELs) is clearly demanded from the operator. For resource efficiency it seems that either the BAT-C are not explicit enough or Member States have

different viewpoints as to the legal obligation to implement those. Further the set resource efficiency related benchmarks are too wide. This great flexibility permitted to Member States, results in fragmented inclusion of such quantified elements.

Another issue to highlight here (indirect result of the lack of explicit IED provisions mentioned above) is the approach towards the derivation of BAT-AEPLs during the elaboration of BREFs. In contrast with the process of deriving BAT-AELs, much less effort and resources are put into the collection of data and their subsequent analysis. The result is that, with the exception of energy-related BAT-AEPLs / BAT-AEELs, such performance benchmarks are rarely included in the BAT conclusions, over concerns of the overall database quality and lack of contextual information. This leaves competent authorities with the (voluntary) task to derive such benchmarks themselves if they wish to set quantified permit conditions - a task that in most cases won't be undertaken, and if it is undertaken it may lead to an unlevel playing field for operators. The lack of BAT-AEPLs in BAT conclusions have been studied in the 2019 study 'IED contribution to the circular economy'. IED Contribution to the circular economy - Service Request 13 under Framework Contract (ENV.C.4/FRA/2015/0042 - Final report for European Commission - DG Environment - 07.0201/2018/785987/SFRA/ENV.C.4)

We have witnessed a shift in the working methods of the EIPPCB (and the willingness of member states to address this issue more effectively) in the context of the bad experience of the BREF review for Food Drinks and Milk Industries (FDM) which resulted in "indicative" BAT-AEPL. At the KoM on the ceramic manufacturing industry (CER BREF) held in February 2021, it was decided to set up a subgroup dedicated to issues of circularity and decarbonisation. This signals an important change of attitude that (if works well and replicated) it can ensure the sound derivation of BAT-AEPLs that would later be 'translated' into quantified permit conditions.

The way in which BATs and BAT-AELs are developed does not focus on progressive approaches to resource efficiency in a way that highlights the potential reductions in resource-use that can be achieved through the employment of different techniques. Moreover, more innovative solutions are not well-integrated in the wider framework, therefore quantification of required performance levels have been largely irrelevant in a framework that is conservative in terms of integrating new production processes with improved efficiency.

Country specific experience: BAT-AEPLs in the Czech Republic and in Poland are almost never reflected in the permits and enforced by the authorities, unless the operator adopts them voluntarily. We think that this has several reasons:

- Especially in the CEE Member States, there is a strong opinion of the national authorities, that if the IED does not explicitly render the BAT-AEPLs binding, it means, that they do not have to be considered, or, that they can be considered, but in case of non-compliance, the authority is not obliged to take any steps.
- BAT-AEPLs and their monitoring is not explicitly included in Art. 14(1) of the IED. Therefore, these parameters sometimes are not even included in the text of the permit and the authority does not deal with them at all.
- For example in the Czech Republic, the parameter of energy efficiency is not usually included in the permits of LCPs. It means that not only it is not regulated, but it also cannot be compared with the BAT-AEELs. We have pointed out this problem to the Czech Ministry of Environment which has then issued a new guidance stating that energy efficiency should be included in the permits when implementing the LCP BATC. (The guidance is available here: https://www.mzp.cz/ippc/ippc4.nsf/b8b42dbc0c8637bac125773c0021a91e/1838ca9c8c8f620ac125853a0028c99e?OpenDocument), however its implementation has not taken place yet and information about energy efficiency of LCPs is still unavailable.

For the new IED, we suggest that: 1) BAT-AEPLs are explicitly made binding -even as we consider that this is currently the case- , with a thorough reasoning required when not complied with, 2) make BAT-AEPLs on resource use / energy efficiency an obligatory part of the permit.

Further we would like to reiterate that the reporting of environmental performance should be put into context (input/output balance) and should also over the upstream and downstream environmental footprints of the industrial activities, notably from the products (see further points in Section 5) – example with the benchmark comparison of refineries in EU with Israeli Refineries.

66. **A. Does the current IED and other related legislation (e.g. Article 11 of E-PRTR Regulation 166/2006 and Article 4 of Directive 2003/4/EC on public access to environmental information) sufficiently allow collection of information on parameters of resource efficiency while protecting operators' concerns on Confidential Business Information (CBI)?** [Yes; No]

No, under the current framework, data and information collection may not be hindered, but there are significant gaps on reporting obligations (E-PRTR / IED registry). Therefore there is a high burden to get access to this information and analysis of such information (both for the purpose of setting BAT-AEPLs and for assessing compliance with permit conditions) has proved to be problematic.

The main failure is related due to significant shortcomings in the reporting requirements and EU database interface.

The EEB has raised this shortcoming at various occasion within the Seville Process but also in the wider context of shortcomings of the E-PRTR / IED data reporting. See most recent responses in Section 5 and please refer to EEB letters relating to the CBI issue in the Sevilla process (http://eipie.eu/storage/files/2021_01_20%20EEB%20letter%20to%20DG%20ENV%20CBI%20closed%20workshop%20way%20forward.pdf and http://eipie.eu/storage/files/2021_01_20%20Annex%20to%20CBI%20discussion.pdf

And wider issues as to improved data collection, notably the E-PRTR input submission https://eeb.org/library/eeb-input-to-e-prtr-impact-assessment/ and related META article (overview on related issues) https://meta.eeb.org/2020/10/22/industrial-pollution-its-time-to-enter-the-digital-age/

With regard to the process of setting BAT-AEPLs, we would like to point to the proposal put forward by the EEB at their letter to the European Commission of 20/01/21 entitled: *'RE: Confidential business information and industry infiltration within Member State delegations in Technical Working Group (EU BREF process)'.* In the Annex of that letter, a detailed way forward is proposed for handling information considered as 'CBI' by industry.

See notably
http://eipie.eu/storage/files/2021_01_20%20EEB%20letter%20to%20DG%20ENV%20CBI%20closed%20workshop%20way%20forward.pdf and
http://eipie.eu/storage/files/2021_01_20%20Annex%20to%20CBI%20discussion.pdf

We firmly believe that any input data (consumption and type of raw materials inputs) is to be publicly available and integrated in the centralised EU registry, also to include the sourcing (e.g. share of recycled content) and fate of the residues / waste. This requires an overhaul of the E-PRTR and also reporting practice and data access under the IED (see Section 5).

Our suggestion is that this approach is included under section 5.3 of the BREF review rules, to enable an effective (and consistent among different BREF reviews) handling of such data.

Regarding the handling of such information outside of the process of BAT-AEPLs setting, we firmly believe that a different, more open approach is needed. There is a need to establish methodological and communication requirements for measuring and making the inputs and outputs of production processes publicly available (alongside other relevant environmental performance indicators), as a means to assessing the net environmental impacts of industrial installations, and more broadly the impacts of entire sectors. Disclosure of this information can help establish minimum performance requirements, and potentially benchmarks for the best performing installations as a means of demonstrating superior performance of market actors in this regard.

The metrics to be set should include:
- waste generation per output and fate of generated waste
- minimum use of recycled/secondary raw material per output
- ratio input of raw materials/output (= resources efficiency metric)

Platforms such as the European Pollutant Release and Transfer Register (E-PRTR) should include such information and allow for more informed assessments and decisions on circular economy matters (serving policy-makers, economic actors, academia as well as NGOs and the public), that are currently not possible due to the lack of data. Amending IED Article 24, as well as relevant E-PRTR provisions, and also relevant commission implementing rules on reporting – but also improved data integration- would be an effective way forward in establishing a clear framework encompassing the elements above (see further comments on this aspect in section 5)

Once the BAT-AEPL is explicitly integrated in the permit conditions so will be the relevant reporting requirements (due to imported Art 14 / Art 24 of the IED).

67. **A. Once the CBI is collected, are there barriers to its use in order to allow the effective setting of ambitious and binding AEPLs on resource efficiency/ Circular Economy requirements?** [Yes; No]

YES - See comments above.

B. If you answered "YES" to the above, what are these barriers? [open text response]

See comments above.

C. What would need to change in the legislation AND/ OR the BREF process to overcome any identified CBI-related barriers? [open text response]

Please refer to the answer to question 66(A and B) for specific suggestions for the amendment of the BREF review rules and related frameworks.

The IED should lay down clear rules as to format, metrics and type of information that must be made available in user friendly format in a centralized EU database (see section 5) for further details since this issue is applicable beyond the resource efficiency and circular economy aspects.

3.2 Further elaborate obligations relating to resource efficiency and circular economy

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According to the IED evaluation, the IED has not been very effective in addressing resource efficiency and circular economy aspects. Furthermore, BREFs & BAT Conclusions do not systematically take into account value chain issues that could be addressed by the IED operator. Two options are under consideration to address this issue:

It is proposed to extend the scope of monitoring/ reporting to cover resource efficiency improvements achieved under the EMS by introducing an operator Resource Efficiency and Circular Economy Plan,

organising at plant level the continuous improvement of resource efficiency (materials, water and energy). Such a plan would include:

(i) Operator's measures that improve in-house resource efficiency (water, materials and energy consumption and use);

(ii) Choices made by the operator of an IED installation that demonstrably affect:

a. the environmental footprint of the plant's feedstocks and resources, and/or

b. the environmental impacts associated with the treatment of the plant's waste and the use of by-products of the production process, in the same or in other sectors.

This plan would support BAT 1 on EMS of BAT Conclusions. It could include reporting obligations on progress and outcome, e.g. under IED Art. 14 (1)(d).

Another option is for the BREFs to include critical, sector-specific information on feedstock and waste specifications more systematically, in order to support authorities in the setting of End-of-Waste criteria, either for:

(i) waste streams which could be converted into feedstocks for the plants/processes covered by the BREF

(ii) waste streams of the plants/processes covered by the BREF, which could be processed into feedstock for the own plants/processes or sector, or others'.

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70. **Do you think that monitoring/ reporting of operator's identified measures and choices that improve resource efficiency and thus realise environmental benefits either in-house or upstream or downstream in the supply chain, should be a mandatory requirement of each plant's EMS?** [Yes; No]

A. For in-house resource efficiency measures with environmental benefits - YES

B. For measures with upstream environmental effects associated to the plants' intake of (secondary) raw materials, (renewable) energy or other resources - YES

C. For measures with downstream environmental effects related to the valorisation of the plant's waste and by-products - YES

If yes, should this mandatory reporting include a time-limited improvement plan (with concrete timeline, actions, milestones, and monitorable objectives and (qualitative and/or quantitative) targets)? [open text response]

We would further like to emphasize the importance of taking into account the entire value chain, as such an approach can help facilitate broader considerations by industrial installation operators in terms of how and where in the value chain they can vertically integrate (e.g. shift or expand operations downstream into the value chain and therefore capture value through a more circular business model) or benefit from circular business models that will help those firms and the respective sectors more broadly, to transform to a far less impactful industry. For example, if cement and concrete producers could better understand potential material feedstock from different sources, they would be better equipped to make use of it in their products or services which would help decouple their value creation from resource-use.

We would also like to underline that time-improvement plans should not be deployed as a type of derogation measure that could undermine regulatory requirements, but rather as an approach to ensure continuous progress towards the desired objectives.

71. **How would IED operators' contribution to resource efficiency and to the circular economy be impacted by the inclusion in BREFs of information that is meant to contribute to the setting of end-of-waste criteria by local or national authorities or at Community level.?** [Significant improvement; Moderate; Slight; No impact; Do not know; Not applicable]

Moderate to slight.

Suitable end-of-waste (EoW) criteria information should include all the relevant criteria and requirements that should be set for relevant waste materials from each sector. EoW status should preferably be defined at EU level, as national or local EoW status will de facto create a risk for misinterpretation by national authorities. EoW criteria should therefore be established and transposed to BREFs for elaboration for EU-wide requirements on different waste streams.

A joint ECOS and EEB paper on key recommendations for the development of EU-wide end-of-waste criteria can be found here Key recommendations for the development of further EU-wide end-of-waste (EoW) criteria.

This paper highlights that:

End-of-waste criteria should ensure a certain quality of secondary raw materials, exclude hazardous properties, set strict limits for pollutants and limit the presence of foreign materials.

Waste that has ceased to be waste should not be used for energy recovery or incineration, to this end it is important that end-waste-criteria set within the framework of the IED ensures that waste that has ceased to be waste shall comply with EU legislation without any exemption, such as with the strict emission controls of the EU Industrial Emissions Directive 2010/75/EU (including BAT conclusions for waste treatment), in particular for their releases of heavy metals and organic pollutants. This is important to prevent subjecting waste used a feedstock such as SRF (Solid Recovered Fuels) being subjected to lower emissions requirements based on a shift of criteria. *To reiterate, use of waste that has ceased to be a waste as a fuel feedstock, for pyrolysis, or for gasification should be excluded from all criteria aimed at supporting use of waste resources and industrial symbiosis, in order to avoid highly resource inefficient and environmentally harmful use of waste streams.*

Guidance on preparing for reuse activities should be integrated as part of BREF documents to enable larger portions of waste to be suitable for circular use. This is because in comparison to recyclables, industrial waste products collected to be prepared for re-use will not go through the same processes as they do not hold the same risks in terms of impact on the environment.

An example of specific guidance to be included within BREF includes detailing end-of-waste criteria which will ensure the quality and safety of waste used elsewhere is the use of steel slag. Detailing applicable criteria for the use of steel slag within the iron and steel production BREF would be valuable as slag is in some conditions considered a by-product and in others a waste material based on its qualities. This would help set conditions to appropriately inform permits based on this criterion and provide a strong basis for effective market surveillance in order to monitor the use of steel slag in other industries such as for cement and concrete production. Information within relevant BREFs must be explicit and clear to avoid dangerous misuse of industrial waste.

72. **A How would IED operators' contribution to resource efficiency and to the circular economy be impacted by the inclusion in BREFs of information of how to improve upstream and downstream environmental impacts of the operation of the installation?** [Significant improvement; Moderate; Slight; No impact; Do not know; Not applicable]

As mentioned in the answer to question 63, the EU industry is recognised in the EU Circular Economy Action Plan (CEAP) to have a key role in transitioning to a circular economy, particularly with regard to sustainable sourcing and cooperating across the value chain. We would predict a moderate to significant improvement, if such elements are included in the BREFs.

Having said that, while the inclusion of information would be useful guidance, the flexibility in use of BREFs in supporting member states implementation remains a concern.

Inclusion of information on upstream impacts could help disseminate best practices on sourcing of input materials and substances, for example in relation to impacts associated with mining. However, this will likely only support the consideration of such impacts and will not likely directly impact the sourcing of operators. Mandatory information and performance requirements relating to scope 3 impacts associated with all inputs would be the most effective tools to integrate these aspects directly into permit conditions, although the level of ambition would not be guaranteed under the current subsidiary system, and would likely fall short of required action based on the approach of many member states so far.

What we explicitly need is the inclusion of value chain BAT conclusions in the BREFs, that would e.g. mandate the sustainable sourcing of energy and raw materials (incl. accompanying BAT-AEPLs) that would be 'translated' into quantified permit conditions requirements.

The metrics that could be set should include:
- maximum waste generation per output
- minimum use of recycled/secondary raw material per output
- ratio input raw material/output (= resources efficiency metric)

B If significant, is clarification needed on how BREFS and BAT Conclusions cover upstream and downstream environmental impacts of the operation of the installation? [

Yes, we do believe that clarification is needed to enable a sound and homogeneous implementation of such provisions across the EU and beyond. For specific suggestions, please refer to the answer to question 72.

Apart from clarification, the IED (scope – Annex I) and the BREF review rules need to be amended accordingly to encompass such elements. Currently this an area of great untapped potential. The development of relevant standard BREFs texts (developed and approved at Forum level, and used in all BREFs without needing discussion at TWG level) could further save resources in upcoming reviews.

3.3 Promotion of industrial symbiosis

Industrial symbiosis (IS) refers to inter-firm resource sharing by related or traditionally separate industry sectors in a collective approach, to achieve a mutually beneficial competitive advantage involving physical exchange of materials, energy, water and by-products. The exchange of production residues is however considered as recycling (waste treatment), and not as Industrial Symbiosis, if a production residue that is categorised as waste1 , is reprocessed into products, materials or substances. (NB such reprocessed uses may be for the original or other purposes, and may be in a facility that exclusively or mainly uses wastes as an input for its production.)

Industrial Symbiosis has clear advantages for resource efficiency and in promoting a more Circular Economy, but there are few measures at present that support a wider overall uptake.

BREFs currently contain limited information needed for unlocking the potential for generating mutual/ reciprocal benefits from cross-sectoral and cross-value chain collaboration (thus fostering Industrial Symbiosis), which would create more resource efficient value chains.

Options are under consideration to promote industrial symbiosis through national plans, supported by EU guidance on good practices and information included in BREFs.

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75. **Do you have national measures promoting industrial symbiosis?** [Yes; No] If yes, please describe. [open text response]

Unsure of existing examples of measures directly promoting industrial symbiosis, although there are many existing practices that already represent industrial symbiosis where a business-case currently exists, in that value exists in reprocessing residues in a suitable manner for use by another sector.

The recent UK "industrial decarbonisation strategy" report highlights that good case examples of industrial symbiosis applications are rare, or hard to find, even if that sounds like a nice - catchy concept. The main barrier seems to be lack of knowledge and access to data on opportunities (which seem to be connected barriers) https://www.gov.uk/government/publications/industrial-decarbonisation-strategy

The Chapter 5 of this paper is where most text around this concept can be found and highlights the following: "the UK already has considerable experience in this area, with the National Industrial Symbiosis Programme having operated between 2005 and 2013, however, there is significant scope to continue these efforts. Studies have shown the primary barriers to increased use of secondary materials by industry include a lack of knowledge, resourcing constraints, and access to data on potential symbiosis opportunities. We will determine how industrial symbiosis can be further supported to address these barriers and reduce industrial emissions arising from waste. Early-stage research on how a facilitated industrial symbiosis network could operate in the UK has already been commissioned"

76. **A. Would national plans contribute to the uptake of industrial symbiosis?** [Significant improvement; Moderate; Slight; No impact; Do not know; Not applicable]

Proposal for EU level requirements and guidance with many relevant policies at this level, but national plans that bring together the different elements of relevant implementing legislation from the IED, WFD, and other relevant legislation would be a positive contribution of the IED. This would also help set requirements on information and help map out symbiotic activities. National plans could also be used as vehicles to inscribe resource efficiency and environmental performance targets that can be achieved and contributed to by different actions. It will be important to have a harmonised and accurate method to calculate all the relevant inputs and outputs to avoid resources and associated impacts falling through the gaps as they are transferred between industries.

See however the not so encouraging findings from the UK paper precited in Q75. The UK "National Industrial Symbiosis Programme" has been operated between 2005 and 2013, however, there is significant scope to continue these efforts.

B. If an "improvement", would the inclusion of information in BREFs on the potential for a sector to engage in industrial symbiosis, complemented by EU guidance on good practices, usefully support such national plans? [Significant improvement; Moderate; Slight; No impact; Do not know; Not applicable]

We see the potential of moderate to significant improvement, but this potential will be reached not only by the inclusion of information, but by setting related BAT conclusions outlining industrial symbiosis applications, so that these are included in permit conditions.

3.4 Depletion of natural resources – general

79. **What do you consider could be the untapped potential via the IED actions listed below [**High, medium, low]:

- Mandatory BAT-AEPLs and proper management of CBI issues

- → *Water use efficiency & water reuse - high*
- → *Choice of primary/ secondary feedstock and fuels - high*
- → *Waste reduction and recycling - high*
- → *Energy use - high*
- → *Improved environmental performance over the supply chain - high*
- → *Other – please specify*

- Reinforced mandatory resource efficiency reporting requirements in EMS

- → *Water use efficiency & water reuse - medium*
- → *Choice of primary/ secondary feedstock and fuels - medium*
- → *Waste reduction and recycling - medium*
- → *Energy use - medium/high*
- → *Improved environmental performance over the supply chain - medium*
- → *Other – please specify*

- Inclusion in BREFs of critical, sector-specific information to support setting of End-of-Waste criteria

- → *Water use efficiency & water reuse - low*
- → *Choice of primary/ secondary feedstock and fuels - high*
- → *Waste reduction and recycling - high*
- → *Energy use - moderate*
- → *Improved environmental performance over the supply chain - high*
- → *Other – please specify*

- Promotion of industrial symbiosis by Member States/ regions/ intra-sector and inter-sector local systems

- → *Water use efficiency & water reuse - high*
- → *Choice of primary/ secondary feedstock and fuels - high*
- → *Waste reduction and recycling - high*
- → *Energy use - medium*
- → *Improved environmental performance over the supply chain - high*
- → *Other – please specify*

If you have referred to an "Other" area of resource efficiency, please specify. [open text response]

The impact would be moderate to low if plans at national level are merely indicative.

4 Problem 4: State of the art techniques cannot respond satisfactorily to problem areas #1 to #3 (deployment of emerging and breakthrough technologies)

Deployment of emerging and breakthrough technologies is needed to address the emission of pollutants and GHGs. It is expected that the same innovative techniques will contribute to reducing emissions of both pollutants and GHGs.

The evaluation of the IED concludes that the IED has not made a significant contribution to the uptake of innovative techniques. This is driven by a number of factors, including:

- The BREF review cycle is slow, i.e. 10 to 12 years
- BAT-AELs are based on 'backward looking' information and are static
- Scarce information on innovative techniques is included in BREFs and BAT conclusions
- There are few technology suppliers/developers in the BREF Technical Working Groups.
- There is no evidence of effective action taken by Member States under Art. 27 of the IED to promote development and application of emerging techniques and no Commission guidance has been published
- Art 15(5) derogation seem to be used in very limited occasions

Options are under consideration to better reflect recent innovations in BREFs, including:

- Shorter BREF cycle focussing on recent innovations and their expected future environmental performance, i.e. Emerging Techniques Associated Emission Levels (ET-AELs)
- Upscale the Industrial Emissions Innovation Observatory to monitor the Technology Readiness Level (TRL) of emerging and breakthrough technologies. Recognition by the Observatory of an advanced TRL would trigger BREF reviews. This builds on a pilot to test an Innovation Observatory for two BREFs (Textiles and Slaughterhouses and animal by-products), being included in BREFs.

Options are also under consideration to facilitate the deep transformation of industry to apply emerging/breakthrough techniques and avoid inadvertently "locking-in" existing good rather than best practice including:

- Revision of IED (Art 15(5)) to facilitate development and testing of emerging techniques (currently allows testing of emerging techniques over a period of up to 9 months, revision would involve extending time period (period to be determined)).
- Revision of IED Article 21(3) to provide more than four years for deep transformation of industrial sectors, where BAT conclusions have recognised innovative techniques being BAT and require dramatic changes across a sector (e.g., requiring co-adoption of novel techniques that substantially reduce GHG emissions as well as emissions of other pollutants/ use of materials and resources).
- Revision of IED Article 21(3) to allow more time for operators to implement higher performing emerging techniques with a high Technology Readiness Level (TRL), instead of implementing BAT within four years. This would be supported by inclusion in BREFs of stricter

long-term Emerging Techniques Associated Emission Levels (ET-AELs) reflecting the expected environmental performance of emerging techniques.

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80. **To what extent do you think that the following actions would accelerate uptake of innovations?** [Significant contribution; Moderate; Slight; No impact; Do not know; Not applicable]

- Shorter BREF cycle focussing on recent innovations and their expected future environmental performance, i.e. Emerging Techniques Associated Emission Levels (ET-AELs)

Significant contribution;

- Upscale the Industrial Emissions Innovation Observatory to monitor the Technology Readiness Level (TRL) of emerging and breakthrough technologies. Recognition by the Observatory of an advanced TRL would trigger BREF reviews.

Slight;

- Revision of IED (Art 15(5)) to facilitate development and testing of emerging techniques (currently allows testing of emerging techniques over a period of up to 9 months, revision would involve extending time period (period to be determined)).

Slight

- Revision of IED Article 21(3) to provide more than four years for deep transformation of industrial sectors, where BAT conclusions have recognised innovative techniques being BAT and require dramatic changes across a sector (e.g., requiring co-adoption of novel techniques that substantially reduce GHG as well as emissions of other pollutants/ use of materials and resources).

Significant contribution;

- Revision of IED Article 21(3) to allow more time for operators to implement higher performing emerging techniques with a high Technology Readiness Level (TRL), instead of implementing BAT within four years. This would be supported by inclusion in BREFs of stricter long-term Emerging Techniques Associated Emission Levels (ET-AELs) reflecting the expected environmental performance of emerging techniques.

Moderate

81. **How often should emerging techniques for each sector be reviewed? E.g. reviewing the maturity (TRL) or expected performance levels.**

Every 0-1 years Every 2-3 years Every 4-6 years Not applicable Do not know

82. **To what extent do you think the Innovation Observatory can impact on:** [Significant improvement; Moderate; Slight; No impact; Do not know; Not applicable]

- More frequent identification and assessment of emerging and breakthrough techniques maturity More participation of technology developers to get their views (and evidence) on emerging and breakthrough techniques Significant improvement;

- Qualifying emerging and breakthrough techniques as candidate BAT faster or more frequently (in between two BREF reviews) Moderate to Significant improvement;

- Generating information on the expected future environmental performance of identified emerging and breakthrough techniques Significant improvement;

- Generating information on expected capital costs and running costs of identified emerging and breakthrough techniques ; No impact;

- Facilitating the deep transformation of industry to more promptly apply emerging and breakthrough techniques Moderate

83. **Which stakeholders should sit in the Innovation Observatory?**

- European Commission

- Industrial operators

- Environmental NGOs

- Member State representatives / competent authorities

- Civil NGOs

- Think tanks

- Applied RTD institutes

- Technology developers and providers

- European Environment Agency

- European Institute of Innovation & Technology (EIT)

- Other, please specify

If you have referred to an "Other" stakeholder, please specify. [open text response]

Other: academia that are independent from the interest of operators.

For Q82: if qualifying emerging and breakthrough techniques are to be identified as "established" BAT and this would occur faster or more frequently (in between two BREF reviews) then this would trigger significant improvements. See Q 107 about wider BAT determination method issues, if the BAT assessment would focus on technical achievable performance levels rather than economically viable or profitable for the operator this would also yield significant improvements and innovation drivers, this is possibly the meaning of option 3 referring to 'expected future environmental performance'.

The meaning of the question is not clear also in relation to role of technology developers. These should also be more involved for established techniques assessment.

84. **Assuming that energy intensive sectors would decarbonise faster and experience deeper transformation, do you consider it useful to focus the activities of the Innovation Observatory on energy intensive sectors during its first years of operation?** [strongly agree, agree, neutral, disagree, strongly disagree, do not know]

85. **To what extent would accelerated uptake of innovative techniques through improvements of the IED, have an impact on the following?** [Significant increase; Increase; No impact; Reduction; Significant reduction; Do not know] Where significant, please provide more detail [open text response]

- EU competitiveness Significant increase

- *EU market share* Do not know

- *Trade with third countries* Do not know

- *Employment* Do not know

- *Consumer prices* Do not know

- *Innovation* Significant increase;

[the scale however depends on what the performance relates to, innovation per se does not necessarily mean pollution reduction, therefore no qualified answer can be provided at this stage]

- *Reduced environmental impacts via advance investment cycle planning of new/ revised installations, processes and equipment* Do not know

86. **A. To what extent do you think that allowing more time for installations to implement innovative techniques with a high Technology Readiness Level (TRL), instead of implementing BAT within 4 years, would drive industrial investment towards more advanced technologies?** [Significant improvement; Moderate; Slight; No impact; Do not know; Not applicable]

B. What would be the impact on permitting of such 'two-speed' approach? Assuming that in practice the BREF review cycle typically lasts 12 years, what could be the duration of the additional time granted for implementing innovative techniques identified in the Innovation Observatory, without jeopardising the sectoral level playing field? [1 year; 2-4 years; 4-8 years; depending on the achieved improvement versus BAT]

5 Problem 5: Private individuals have limited opportunities to obtain information about, and take action regarding impacts caused by (agro-)industrial plants

5.1 Public access to information

There are heterogeneous approaches between and within Member States when providing public access to information, with cases of restricted access, information being made available only upon request, or for a fee, appearing to go against the phrasing of Article 24(2) of the IED. In addition, information is presented in complex formats, which makes it potentially challenging to the public to identify relevant information, or to track changes in permit content over time.

Options are being considered to ensure simplified and harmonised ways of providing public access to information, through enhanced transparency of information, specifically on the permitting process, permit decisions and operation of the plant (to show how permit conditions are being met). Potential options include:

- Include in IED Article 24(2) a requirement for internet open-access (i.e. free of charge and without restricted access to registered users).

- Require a publicly available permit summary and a clear overview of the timing of the process and validity, and dates of reviews/renewals.

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87. **How would you rate ease of access to relevant information?** [Very easy; Easy; Moderate; Difficult; Very difficult; Do not know]

- *Permit decision and accompanying documentation to inform the decision - Difficult*

- *Article 15(4) derogation Very difficult*

- *Site visit reports Difficult*

- *Emissions monitoring data Very difficult*

5.2 Public access to information on the environmental impact of derogations

There is a growing need to establish and understand the environmental impacts that the use of derogations is having. Currently, there is insufficient information made publicly available to monitor the impact of Art. 15(4) derogations.

To further improve public access to information, options are being considered to make available results of emission monitoring for specific derogation granted under IED Article 15(4).

Additional questions relating to emission monitoring for specific derogation granted under IED Article 15(4) are presented under Problem 1 a – zero pollution ambition.

92. **Where derogations have been granted, to what extent is information on the environmental impacts of the derogation (i.e. the difference compared to if the plant was implementing BAT and meeting BAT-AELs) already made available to the public?** [Publicly available for all plants; Publicly available for some plants; Not available; Restricted availability to registered users; Available for fee; Unable to respond]

Publicly available for some plants

93. **To what extent would publicly available emissions monitoring data for a specific derogation impact on public participation in the decision-making process for granting Article 15(4) derogations?** [Significant improvement; Moderate; Slight; No impact; Do not know; Not applicable]

Commented [CS1]: This is about making monitoring data available when a derogation is granted.. I don't see the usefulness of this or do not understand the question. – hence "moderate" Public participation also needs to be triggered by active notification (RSS) feeds and there are much bigger issue as to effective public participation in the derogation procedure (as highlighted in section on Art 15.4 derogation under section 1) other points in section 5.3 Q95

5.3 Public engagement

The current scope for public participation, as defined by IED Article 24(1), does not cover all permitting procedures (e.g. there is no requirement to invite the public to participate in cases where a permit is updated to reflect BAT conclusions).

To improve public participation, options are being considered to widen the scope of public participation under the IED to all permitting procedures, including permit updates, in particular where they are expected to have a significant environmental impact.

94. **Which reconsideration and updates are likely to have an environmental impact?** [Significant improvement; Moderate; Slight; No impact; Do not know; Not applicable]

- *As part of a regular review* Significant improvement

- *To comply with BAT Conclusions* Significant improvement

- *To reflect developments in BAT (where no BAT Conclusions have been adopted)*

- *To address significant pollution despite existing ELVs* Significant improvement

- *To ensure operational safety* ; Moderate

- *To comply with environmental quality standards* Significant improvement

95. **In addition to public access to information, please state additional factors that determine the extent of public participation.** [open text response]

The first EEB 'Burning the Evidence' report and confirmed in a more recent assessment (2020) found that some EU countries are still lacking a national portal (e.g. Germany, Poland, Netherlands) and because the structure of their permitting authorities is complicated, accessing any sort of permitting or monitoring related information becomes extremely difficult. These countries should set up national portals and publish permitting information from all regions. Other EU countries have a robust infrastructure, but are not publishing such information (e.g. Austria, Hungary, Denmark), or they publish only the permit in force.

The EEB recommends that all EU countries follow Italy's and Ireland's best practices such as publishing the consolidated permit and indicating whether an IED permit review has started for a particular plant, the deadline for submission of comments, and whether the assessment is still ongoing.

Where a derogation is granted in accordance with Article 15(4), authorities should publish the specific reasons for that derogation based on the criteria laid down in that paragraph and the conditions imposed. This does not happen for the vast majority of Member States. Installations not fully implementing the possible BAT performance levels are currently not easily identifiable, this may in many cases be more interesting compared to whether the operator complies with the lower end of the BAT-AEL or just set the ELV at the upper BAT-AEL range. Further the EU system does not enable a user-friendly comparison of permit requirements set (unlike the US system that allows to compare permit conditions between US, Mexico and Canada in a few clicks, despite language barriers).

Gathering emissions monitoring data as part of the EEB Industrial Plant Data Viewer project has proven to be a difficult task for most of the countries. Very few states display on their online portals such data (e.g. Italy, Romania for very few plants, Croatia but also Slovakia are some examples), therefore in many cases concerned citizens must fill an official request in order to try and access it. NOTE: the assessment was limited to LCPS only and is therefore not representative, however this concerns the highest emitting activities so it may be worse for other IED activities. See Annex to the IPDV background briefing: https://eeb.org/library/industrial-plants-data-viewer-background-briefing/

For some of EEB's access to document requests, authorities did provide emissions monitoring data in concentrations via email or post (e.g. Austria), but in many cases the responses came with delay (e.g. France). Some authorities only provided us with compiled key figures with no supporting documents to prove the accuracy of the provided results, on the basis that the data is not available in electronic form. In the case of other countries (e.g. Sweden), competent authorities stated that they do not

request real time measurements from the operators and many authorities confused the reports with the annual E-PRTR reports (loads) whilst the request was crystal clear that we mean the raw monitoring data of the stacks expressed in concentrations. There are also examples of authorities that simply chose to ignore the solicitation (e.g. Spain) or even to request fees for granting access to emissions monitoring data, permits or compliance related information (e.g. Germany, Poland). Such acts clearly represent a barrier and unjustified hurdles laid down on individuals' and NGO's rights to obtain information in a timely manner and to get access to environmental information they seek.

We would also highlight that the practical extent of public participation, access to information and better use of data also depends on what various policy makers will do as practical follow up action.

In the EEB IPDV briefing we highlighted the following:

What member states' ministries and competent authorities can do

The EEB has already assessed national databases in terms of accessibility and user friendliness of data in its "Burning: the evidence" report published in 2017. Recommendations for improvements are contained in that report https://eeb.org/publications/61/industrial-production/47539/burning-the-evidence.pdf, and updated in section 6 of the briefing "EU industrial strategy for achieving the 'zero pollution' ambition set with the EU green deal (large industrial activities)" https://mk0eeborgicuypctuf7e.kinstacdn.com/wp-content/uploads/2020/03/EEB-basic-elements-on-Industry-Strategy-IED-FIN-1.pdf

However, many member states did not make any progress since then, and the EEB had to rely on time-consuming access to documents requests to obtain basic information. In addition, over eight months after such requests were issued, some countries have not provided yet the requested data.

These request cover environmental information that cannot be considered confidential. It is therefore a responsibility of public servants to act in a pro-active and transparent manner and ensure this information is disclosed and available to the public. The EEB calls on national ministries and competent authorities to help fill the gaps, and work towards an improvement of the EU reporting systems on industrial activities See notably section 6 of this briefing: https://eeb.org/library/an-eu-industrial-strategy-for-achieving-the-zero-pollution-ambition-set-in-the-european-green-deal/.

Information about upcoming decisions such as permit reviews or granting derogations should be clearly displayed by making best possible use of digital platforms. Authorities should make greater efforts to proactively share such information in a user-friendly format, on a centralized website including useful search filters. National authorities should consider offering automatic alerts by email, RSS or other useful service. Information that is generated by the implementation of the IED must be available online and should never be subject to administrative or other access fees. With regard to Art 15(4) derogations, the full justification and details of the CBA should be made publicly available in a timely manner, meaning before a decision is actually taken e.g. at least 2 months prior to the decision. Prioritizing real time access to important data like flow rates and continuous emissions monitoring (CEM) results would also determine the extent of public participation in compliance promotion related activities.

What the European Commission and European Environmental Agency can do

The EEB is not entrusted with the role of 'guardian of the treaties', but the European Commission is. Properly designed reporting obligations and proper control over the way information is reported are essential to obtain a EU-wide, user-friendly and multi-purpose data reporting system that includes sufficient, high-quality data from the EU's largest industrial activities. However, the EEB has registered

examples of a complacent 'laisser-faire' attitude which hinders the development of an efficient reporting system, as reported below.

Example 1: the EEB alerted policy makers that the Commission's Implementing rules on IED reporting (2018/1135/EU) https://eur-lex.europa.eu/search.html?DTN=1135&DTA=2018&qid=1597830036800&DB_TYPE_OF_ACT=decision&DTS_DOM=ALL&excConsLeg=true&typeOfActStatus=DECISION&type=advanced&SUBDOM_INIT=ALL_ALL&DTS_SUBDOM=ALL_ALL as well as related COM implementing rule 2019/1741/EU https://eur-lex.europa.eu/legal-content/GA/TXT/?uri=CELEX:32019D1741 need an urgent review and improvements to enable forward-looking reporting that would serve various objectives, including benchmarking and compliance promotion. Yet no improvements were made, and the European Commission decided to apply reporting obligations to the absolute minimum required by law. Although failures in the national reporting systems had been highlighted in 2017 via the 'Burning: the evidence report', the European Commission ignored those remarks and findings and adequate infringement actions against failing member states are rather the exception.

Example 2: the EEB alerted the EEA and the European Commission that big lignite plants had suddenly vanished from the LCP-D reporting. This is the case for the following plants and unit: Schwarze Pumpe, Jänschwalde units, Lippendorf, and Boxberg units. All those plants do co-incineration of waste, and even get away with laxist ELVs on SO2, it seems national authorities consider they do no longer need to report under the Art 72 IED system.

Example 3: the EEA has recently published IED registry data containing 2018 data. Reports from many countries including Germany and France were due back in September 2019, but still contain fake URL links and 'dummy' placeholders that do not refer to the required documents. Furthermore, a matching to the old LCP-D ID codes is often impossible, the main reason being that countries are not required to report data in a consistent way. Instead of rejecting those reports and require all countries to do report the information properly, the EEA decided to publish the data.

Some countries also indicate (at least transparently) that they do not comply with their legal obligations under the IED. In the UK, reports indicate that Art 15.4 derogations have been granted, but the weblink with the justification is "not available", which is a clear breach of the legal requirements. The EEB is unaware whether the European Commission triggered an infringement procedure.

A new dataset has been provided in December 2020 however many countries failed to provide the required 2019 data and dummy placeholder URL are still used.

Example 4: the EEA also reports emission data which are extreme to a point that they seem implausible. This is the case for certain Serbian plants which reported mercury emissions to water exceeding 100kg (Kostolac A 197kg, Kostolac B 409kg, Nikola Tesla Morava 615kg) in 2017. When alerted by EEB staff that such data were either wrong or revealing a serious issue, the EEA proceeded merely to send clarification e-mails to the Serbian authorities, without taking any further action to ensure the data were corrected or the pollution was prevented. This issue is not only relevant in terms of environmental impacts, it also affects wider scientific findings: according to current data from the EEA, combustion plants are responsible for 6% of mercury emissions to water within the EU28. These three units in Serbia alone (Kostolac A and B, and TE Morava) would bring that number up to almost 40%. It is disturbing that data reporters may simply indicate that data is based on "other measurement/calculation methodology", without clarifying the background and methods used. These issues deserve due attention and follow-up.

Example 5: instead of improving the data situation on industrial activities, the EU was the only party to object to the improvement of the parent PRTR protocol through a formal review of the global level PRTR (Kiev protocol), talking on behalf of the member states. The position taken by the Commission

and its member states aimed to weaken the favourable conclusions reached to push for a review (see Agenda Item 6) https://www.unece.org/fileadmin/DAM/env/pp/prtr/WGP-7/Statements_and_Presentations/EU_MS_statements_final.pdf . The EEB therefore provided an alternative suggestion https://www.unece.org/fileadmin/DAM/env/pp/prtr/WGP-7/Statements_and_Presentations/EEB_statement_and_amdts_on_EU_draft_decision_item_6_WGP7.pdf to considerably improve the EU position. Some of the EEB's suggestions were picked up in the final compromise proposal https://www.unece.org/fileadmin/DAM/env/pp/prtr/WGP-7/Statements_and_Presentations/Draft_decision_item_6_WG7_REV2_28Nov.pdf . By objecting improvements to the protocol, the European Commission had promoted the lowest common denominator of national governments' interests, instead of defending the public interests and data transparency. Since there is a positive U-turn on the issue and willingness to review both the E-PRTR but also the UNECE PRTR Protocol.

To improve the data reporting situation, the EEB calls on the European Commission and the EEA to:

- Reject any IED Registry reports that are either incomplete or contain misguiding information, such as dummy placeholders or fake weblinks;
- Initiate infringement proceedings against member states that fail on proper reporting, make the information public, and block pending state aid decisions until these issues are fixed;
- Reject "disappearing plants" (e.g. the German lignite units), and reintegrate data manually;
- Amend without further delay the Commission Implementing rules on IED reporting (precited) to achieve the following main objectives:
    - To set an EU IED permit report template for ELV reporting
    - To require direct and instant reporting (e.g. to the EEA) of the continuous emissions monitoring for air - and monthly averaged water - pollutants
    - To set harmonised reporting standard and require sharing on annual compliance report information (Art 14(1) point d of the IED)

      The EEB is in the process of elaborating an electronic reporting interface that could be used and will share the model in due course, ideally within the TSS submission on the E-PRTR. We set out below further details as to how a standardised format could look like
- Improve integration of EU data-reporting, and notably:
    - Enable ENTSO-E matching with LCP-D Ids;
    - Enable the integration of water data (e.g. WISE);
    - Set metrics for production volumes (E-PRTR)

EU level asks (as in precited briefing):

- Establish an EU single access database (improved IED registry). National and regional authorities should be linked to this database.
- Increase database usability by providing useful search filters.
- Allow better benchmarking of real-time environmental performance and better use of information for other purposes (e.g. BREF reviews) or compliance assessment against environmental quality standards. This includes a minimal list of permit conditions related information to be added, permit review status and production outputs information
- Guarantee real time access to important data like flow rates, continuous emissions monitoring results.
- Oblige member states to provide data under a no-fee basis.

- Harmonise data structures by providing template of member states (e.g. IED Electronic Permit Template). Improve visibility and comparability of permit conditions, derogations, inspection reports and annual compliance reports *(see more detailed proposal on the Art 14 annual compliance report below)*.
- Improve the IED registry and revisit the PRTR to include diffuse emissions from products, in particular from SVHC, and enable progress tracking towards SDG achievement, with proper consultation of end-users, also by integrating information on environmental and health quality (see section 6.5).
- Monitor transposition and implementation regarding transparency in a Forum.

More generally consult with NGOs and the public, and include them in this process, because they are an "end user" of that information.

- **Possible way forward in relation to harmonisation of reporting formats for key IED documents** (permits, compliance reports, but also potentially inspection reports and others).

This would enable effective electronic integration into national and EU reporting portals. This approach would provide a level playing field across Europe and ensure that citizens in each Member State, and across the Union, are treated equally in terms of access to information and linked public participation opportunities in decision making and overcome language barriers that restrain comparability of information being supplied.

Our proposal is the creation of two electronic templates: one to be filled-in with essential permit information such as the permit conditions, and the other with essential information of the related compliance report. It could also be possible to merge both reporting aspects in the annual compliance report since the annual compliance report enable a verification on whether the permit conditions are complied with. Operators across Europe would then have to directly fill-in these templates once they obtain the environmental data in question. An indication that *'the validation of the data is pending'* may be needed in case more time is needed by the authorities to check the submitted data for verification, however this should not delay public access to the data.

Such a system would remove administrative burdens linked to translation and EU level reporting whilst providing a real added value as to the usefulness of data reported for the purpose of compliance promotion, BAT identification and general benchmarking. The required basic elements of the permit / the compliance report that would be reported in these electronic templates (e.g. permit ELVs applied for various pollutants with averaging periods indicated) which in turn could be automatically extracted by the EU-level PRTR / IED register.

It would further allow:

- stakeholders acting at national or EU level to get easy access to information on equivalent industrial activities, allowing better benchmarking of environmental performance;
- identification of hotspots to be identified for improvement opportunities, also improve collaboration within the industry to improve and learn from others;
- better use of information available for other purposes e.g. BREF reviews;
- an improved level playing field for industry';

The administrative burden could be reduced as Member States are already required to report on IED implementation to the European Commission, on an annual basis on releases (E-PRTR) and operators on an annual basis through the compliance report. Direct reporting based on streamlining of various reporting obligations through a harmonised standard to the EEA (in charge of the E-PRTR) could help automatised IT reporting systems to properly function. We further think that these developments

would be aligned to the declared policy declarations for the EU to enter the digital age https://meta.eeb.org/2020/10/22/industrial-pollution-its-time-to-enter-the-digital-age/

The EEB would like to make a specific proposal of how the electronic template containing the core elements e.g. of a compliance report would look like.

Please see the link below as a first indicative format example, similar points will be submitted - *possibly in further level of detail- under the ongoing TSS for the E-PRTR review*.

https://eebbrussels.sharepoint.com/:x:/s/sustainableindustry/EXzGuyd6hgBCrlmmhi96u8UBjV1XB7-iYz5ays_RYsV3jw?e=gobWaf

We propose a template comprised by 10 sections:

I. General information about the plant and the operator
II. Air emissions data, incl. reference conditions, uncertainty, type of monitoring (incl. cell to upload raw CEM data), and emission intensity data (per production output)
III. Water data, including on emissions, consumption and circular economy type of info (amount of waste water recycled)
IV. Energy data, including on fuel type, energy efficiency and intensity
V. Operating hours & Other than Normal operating Conditions (OTNOC) incl. measures undertaken to manage OTNOC occurrences
VI. Resource consumption incl. fuel and chemicals, as well as measures to improve resource efficiency
VII. Abatement techniques, incl. both methods of operation and technologies (as per the IED definition of 'technique'), retrofits, and plans of future retrofits linked to the on-going improvement of environmental performance, as demanded by standard Environmental Management Systems, this could also include information on scale of investments made by the operator or other useful information on best practice to prevent impact or continuously improve performance
VIII. Waste management, incl. waste types, codes and destination (recycling / disposal)
IX. Derogations
X. Chemicals management

XI. Other, incl. Information on noise pollution etc.

It is also worth to highlight "performance" needs to be brought into context (namely the ratio of negative environmental impact versus the useful service or product provided by the industrial activity). Therefore defining the proper reporting metric is crucial and may need a differentiated approach for certain IED activities.

The Israeli Ministry of Environment has made a comparative assessment of emission intensity for certain fuel refining industries in Europe compared to Israel, on a list of selective lists of air pollutants. The benchmarking has been made on the metric load of pollutant (Kg) per million of ton oil refined/capacities. The only pollutant where the performance is similar (to German refineries) relates to NMVOC and benzene emissions. Refineries in other EU countries show higher emissions. It is not clear on whether an explanation is due to the scope boundaries of the assessment (other directly associated activities being included or not). The threshold amounts for reporting nitrogen oxides, sulphur oxides, NMVOCs and benzene are much higher in the EU than in Israel (2, 3, 10 and 20 times respectively), possibly the refineries in Europe did not report all emissions of these pollutants. Adding emissions to the reporting quantities for facilities that did not report these pollutants increases EU emissions by about 4% . Normalization of the amount of emissions in the EU countries was carried out according to data on crude oil refining capacity. Calculating by the actual amount of crude oil refining,

which is lower, will increase the amount of emissions per unit of refining. This is an example on why contextual information and proper metrics are important to enable a proper comparison.

For more information, please refer to the IPDV Background briefing.
https://mk0eeborgicuypctuf7e.kinstacdn.com/wp-content/uploads/2020/09/EEB-briefing-on-highlights-on-Industrial-Plants-Data-Viewer.pdf

The IED related review should also be made in conjunction with an overhaul of the E-PRTR, which is directly related. The main EEB position on the E-PRTR is available here https://eeb.org/library/eeb-input-to-e-prtr-impact-assessment/

https://eeb.org/library/power-for-the-people/

more general and policy context points https://meta.eeb.org/2020/10/22/industrial-pollution-its-time-to-enter-the-digital-age/

Further input to Question 94 and 95:

- The Aarhus Compliance Committee Case (ACCC/2014/121/EU) found that a reconsideration or update of a permit condition should be subject to public participation in all cases, (see Para 109) and in particular if the decision is capable of significantly changing the basic parameters of the activity or would address significant environmental aspects of the activity. This should therefore concern the involvement of the public in the considerations of the various options and implications of lifetime extensions, whether to set the level in the strict or middle of the range etc.
  Therefore we suggest that the definition of "substantial change" is changed so that all permit changes have to be carried out in the "substantial change mode" by default, including timely announcement of the proceedings and due public participation. The IED should only contain a definition of a "non-substantial change", exhaustive list of cases when a change of permit can be issued as "non-substantial" - these could be e.g. administrative changes in the description of the installation, update of operating codes, etc.
- We also suggest that the IED explicitly states that information about the start of any permitting proceedings has to be published before the final decision is issued and that the deadline for the public concerned to join these proceedings must not be shorter than 15 days. Automatic notifications to the public concerned would also be helpful in this regard.

Specific country examples:

- A regular permit review in the Czech Republic and Poland usually does not entail any changes from the business as usual regime.
- A permit review which is focused on BATC compliance usually leads to significant improvements provided that Art. 15(4) derogations are not granted.
- In the Czech Republic, unless new developments in BAT are enshrined in the BATC, there are no permit reviews based on new knowledge of BAT with the aim to set stricter operating conditions.
- Permit changes which are supposed to address significant pollution or compliance with EQS are very rare. In our opinion, the potential of their impact on the environment is significant, however, in reality, this potential is not fulfilled.

As for question 95., we argue that the following factors are limiting the extent of public participation:

1) The definition of "substantial change" (Art. 3(9) of the IED) and its implementation in the Member States cause that the options of the public to participate in the permitting procedures is very limited. In our experience, in Poland and in the Czech Republic, the vast majority of permit changes are issued as "non-substantial", therefore not allowing for public participation.

- In cases of "non-substantial" permit changes, the public can challenge the decision before administrative authorities and courts only on the basis of lack of participation. These proceedings usually take several years, before the public achieves a positive court decision which grants the proper participation rights. The whole permitting procedure has to be repeated after such judgment. However, the operation of the source based on an illegally issued permit (without public participation) for several years cannot be remedied.
- In the Czech Republic, according to the official database (https://www.mzp.cz/ippc/ippc4.nsf/search.xsp, data from 1. 2. 2021) there were 16 541 permit changes since 2004. Only 1 435 of them (11,5 %) were adopted as "substantial" changes.
- Some changes that have been considered non-substantial by the authorities are e.g.: newly issued emission limits for mercury into water for a lignite power plant (several cases in the Czech Republic), introduction of the TNP related emission ceilings and less strict emission limits into lignite power plants' permits in areas with long-lasting EQS breaches (Czechia, Poland), installation of the SNCR technology in a lignite power plant with 57 t of NH3/year as a side-effect (Czechia).

2) In the Czech Republic, information about "non-substantial" changes is only published after the decision has been issued and entered into force. Therefore, the only option for the public concerned to challenge this decision is to claim the status of a "neglected participant" before the administrative courts. This process is very lengthy and requires a lot of legal expertise. Also, there is no information or instruction about this option in the decision itself or on the authorities website. Therefore, most of the members of the public do not even know about this option or are discouraged by the length and complexity of the process they would have to come through only to gain their participation rights and be finally able to argue on the matter. Also, after years of court proceedings on procedural (participation rights) grounds, the matter of the dispute often becomes obsolete.

3) Deadlines for the public concerned to join the proceedings as participants are too short. E.g. in the Czech Republic the public has 8 days (incl. weekend) to send a letter to the responsible authorities and declaring their intention to participate in the proceedings. However, this deadline starts when the information about the proceedings (if it is considered a substantial change) is published in the official registry. The public concerned therefore has to carry out a regular (max. 8 days period) monitoring of this registry in order to be able to join proceedings in time.

6 Problem 6: Policy overlap may affect overall policy efficiency

6.1 Internally conflicting provisions within the IED

In addition to IED Annex II pollutants, relevant pollutants to an IED sector are identified in a systematic manner through the BREF information exchange process. Thus, BAT-AELs can be adopted by BAT Conclusions for additional pollutants to those set out in IED Annex II.

Depending on the extent to which it is used when setting permit conditions, the removal of Annex II is under consideration.

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99. **Generally, when reviewing and setting permit conditions, do you make reference to IED Annex II pollutants, to the pollutants in BAT conclusions or to information on substances that could be emitted by the individual installation?** [Mainly IED Annex II pollutants; Mainly pollutants in BAT conclusions; Equally IED Annex II pollutants and pollutants in BAT conclusions]

Conflicting operating regimes internally within the IED leads to excessive burden

The IED includes several requirements on **combustion plants**: chapter II of the IED and Annex I activity 1.1 comprises combustion installations of at least 50 MWth; the LCP BAT Conclusions set out BAT for LCPs under chapter II; and chapter III of the IED sets special provisions for combustion plants of at least 50 MWth whilst referring to Annex V.

Similarly, the IED includes several requirements on **waste incineration plants**: chapter II of the IED and Annex I activity 5.2; the BAT Conclusions on waste incineration under chapter II; and dedicated special provisions for waste incineration plants in chapter IV and the Annex VI to the IED. Chapter IV applies to all waste incineration plants while Chapter II (BAT Conclusions) applies only above a capacity threshold.

Furthermore, both gasification and pyrolysis plants are considered within the scope of Chapter IV (IED Article 42) while pyrolysis is not explicitly listed under Annex I activities. This results in uncertainty regarding which plant categories are within the scope of the IED.

These dual requirements are not necessarily an issue leading to complexity for competent authorities and operators, except for the differences in scope.

The assessment of compliance is further complicated for both LCPs and WIs because averaging periods set out in Annex V and Annex VI to the IED differ from those under the LCP BAT Conclusions. In addition some terminology is currently undefined at EU level related to normal operating conditions. This difference leads to additional administrative cost for operators and competent authorities.

Finally, prior work undertaken by the Commission has flagged that the current wording of Annex V Part 3 has not been implemented consistently between Member States with regard to the subtraction of measurement uncertainty in compliance assessment.

Options are under consideration to:

- Clarify the definitions of 1) Combustion installation and combustion plant; 2) co-incineration, and (3) normal operation conditions for LCPs and (co)-incinerators.
- Streamline the provision of the various chapters of the IED regarding gasification and pyrolysis plants
- Harmonise or allow conversion between the different averaging periods used in IED Annex V and VI and the LCP BAT Conclusions

• Harmonise the approaches taken in accounting for measurement uncertainty in compliance assessment for LCPs and waste (co)-incinerators

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100. **To what extent would the following actions of the IED be helpful?** [Very helpful; Slightly helpful; Neutral/no view, Unhelpful; Do not know]

- *Clarification of the definitions of 'combustion installation' and 'combustion plant'* Do not know

- *Clarification of the definition of 'co-incineration'* Very helpful

- *Clarification of the definition of 'normal operating conditions' for LCPs and (co)-incinerators* Very helpful

- *Streamlining the provision of the various chapters of the IED regarding gasification and pyrolysis plants* Very helpful

- *Harmonising or allowing conversion between the different averaging periods used for LCPs in IED Annex V and the LCP BAT Conclusions*

- *Harmonising the approaches taken in accounting for measurement uncertainty in compliance assessment for LCPs and waste (co)- incinerators* Very helpful

Please justify [open text response]

Emissions occurring during so-called 'Other Than Normal Operating Conditions' (OTNOC), such as leaks, malfunctions and momentary stoppages, can be significantly higher than emissions occurring during 'normal operating conditions'.

The operator should take steps to prevent or minimise OTNOC occurrences, by properly designing, operating and maintaining their system.

It is very positive that dedicated BAT conclusions to monitor emissions during OTNOC and to implement an OTNOC management plan are included in some BREFs (for example BAT 5 and BAT 18 of the WI BREF). However, the current wording of such requirements leaves room for operators and authorities to neglect key measures that could reduce the frequency of OTNOC occurrences. One example, relating to (co-)incineration plants, is the use of supplementary burners to heat up the flue-gas and obviate the need to bypass the bag filter during start-up and shutdown (such measures are only mentioned as "e.g." in a parenthesis)[1][2]

Among other measures, the use of supplementary burners and the full operation of the flue gas cleaning system (without bypass) during the whole operation cycle of the activity shall become mandatory requirements for all plants across Europe.

The IED provides that the BAT concept also includes proper design and maintenance aspects relating to the techniques used and the way in which the installation is operated. In general, incidents (such as malfunction or equipment breakdowns) should be prevented and measures need to be taken to limit environmental consequences and to prevent further possible incidents (Article 7 of the IED). Due to the nature of the activities, the permit shall also set out the maximum permissible period of

[1] BAT no. 18 excerpt: 'BAT is (...) appropriate design of critical equipment (e.g. compartmentalisation of the bag filter, techniques to heat up the flue-gas and obviate the need to bypass the bag filter during start-up and shutdown, etc.)'
[2] These techniques are widely applied in plants in Germany

any 'technically unavoidable' stoppages, disturbances or failures of the purification or monitoring devices (Art 45.1 f of the IED). Furthermore, whenever a breakdown occurs, the operator is obliged to reduce or close down operations 'as soon as practicable until normal operations can be restored' (Article 47)

(– see further points on this consideration under the compliance promotion questions, notably Q34).

Finally, 'emissions should not exceed the emission levels associated with the best available techniques under 'normal operating conditions' (recital 15 of the IED). It is clear that only 'technically unavoidable' OTNOC situations may, on a case-by-case basis, allow possible emission exceedances without legal implications for the operator.

Our recommendation is that no incident should be considered as OTNOC per se, but depending on the circumstances: We need to differentiate between cases where an incident occurs that it is technically unavoidable, and cases where it occurs because, for example, of insufficient system maintenance or because the operator was negligent in taking preventive measures. An incident e.g. linked with high dust emissions in a plant with damaged bag filters that should have been replaced x years ago, it should not be considered as 'abnormal operation'; it is a 'normal' and 'technically avoidable' situation that occurred because the operator failed to appropriately maintain its equipment. Regarding start-up and shut-down: start-ups are planned, so the operator should be able to foresee and address related pollution issues. Concerning shut-downs, it depends on the causes that triggered them. An unplanned SD caused by malfunction(s) of a poorly maintained system should not be considered as an OTNOC occurrence neither any planned shutdown for other maintenance reasons, which is to be considered as a 'normal' aspect of the activity.

The right to know: Furthermore, for transparency reasons it is essential that the procedures applied to ensure environmental safety in the event of an interruption to normal operation should be recorded. This information should be made available to the competent authority and published to ensure that the operator is effectively managing each type of OTNOC and there is no concern for the neighbouring communities.

The definition of "normal operating conditions", or rather the "other than normal operating conditions" (OTNOC) is crucial for the authorities and the public all across the EU to be able to assess emission limit compliance of individual plants and also compare their performance.

Our member Frank Bold Society has tried to map this issue in the Czech Republic with the aim of finding out how many hours (absolute and % of total operating hours) of OTNOC were used by a sample of industrial facilities - lignite plants. We have found out that the definition of what is considered OTNOC is either completely unavailable or it is included in the plant's operating codes, which are only available to the public upon request. We have requested these operating codes and found out that there are slight differences in the definition of OTNOC. Also, we found out that the operators have an obligation to report some of the OTNOC to the responsible authorities. However, the obligation does not cover all OTNOC. It is therefore possible that the operator can strike some parts of the emission reports as OTNOC, but does not have to report this to the relevant authorities. These authorities and the public then cannot find out how many hours of OTNOC were actually applied by individual operators during each year. Also, there is no annual limit of OTNOC hours that can be applied by the installation, contrary to what should be the case for waste incineration (see Q34). This means that it is in fact impossible to review whether this institute is only used when necessary.
Therefore, we would suggest that a very specific definition of OTNOC is included in the IED, as well as the obligation of the operators and responsible authorities to publish information on OTNOC. Also, we

suggest that there is a limit (% of yearly operating hours) for OTNOC as a justification for non-compliance with emission limits (similar to the one set for waste incineration see Q34).

Harmonising the approaches taken in accounting for measurement uncertainty in compliance assessment for LCPs and waste (co)-incinerators:
For thorough information on this topic, please refer to Frank Bold Society's briefing "Measurement uncertainty" (February 2020), which describes the national implementation differences in this topic. These differences may lead to unequal treatment of operators in the common energy market and also to different levels of compliance with environmental standards.
The Czech Ministry of Environment argues that the application of measurement uncertainty is an "implementation issue", therefore it is completely up to the Member States to decide their interpretation of this principle. As we have pointed out in our briefing, this approach is unsustainable and leads to significant differences between Member States.

The EEB suggests that the way of dealing with measurement uncertainty is from now on considered a part of the BATC and BREF documents and that a binding clear approach to this issue is regulated (ideally within the IED). The option to subtract the 'estimated' emission uncertainties from the measured emission values is to be abandoned as unnecessary, because in general uncertainty of today's devices should be very low (relevant CEN standards should clarify those aspects).
We suggest that the requirements for max. uncertainty of the measurement devices are updated to match the current state of science and best in class measurement device uncertainties.
Also, max. measurement uncertainty for other continuously measured pollutants should be included - e.g. mercury or ammonia. E.g. the Czech Republic has introduced an option of WI and LCP installations to subtract 40 % (!) of the measured Hg emissions as measurement uncertainty, regardless of the real quality of the measurement device. We argue that based on available information, the real measurement uncertainty of Hg monitoring is about 10-15 %.

Germany is proposing as well a 40% uncertainty on mercury to air emissions (LCP BREF transposition draft 13. BimSchV that has been rejected by the Bundersrat), this is therefore not a single countries (mal)-practice issue but may evolve to a generalised problem access the EU. Data needs to be comparable and reliable across the EU. Therefore, we suggest that the IED is updated in this respect.

101. **What impact do you think the following options would have on annual administrative costs and environmental impacts relative to existing annual costs and environmental impacts?** [>15% increase; 5-15% increase; little or no impact (+/-5%); 5-15% decrease; >15% decrease; Do not know; Not applicable]

- *Option: Clarification of the definitions of 'combustion installation' and 'combustion plant'*

  → *Administrative Costs*
  → *Environmental Impacts (Elaborate below)*

- *Option: Clarification of the definition of 'coincineration'*

  → *Administrative Costs*
  → *Environmental Impacts (Elaborate below)*

- *Option: Clarification of the definition of 'normal operating conditions' for LCPs and (co)- incinerators*

  → *Administrative Costs*
  → *Environmental Impacts (Elaborate below)*

- Option: Streamlining the provision of the various chapters of the IED regarding gasification and pyrolysis plants

- → *Administrative Costs*
- → *Environmental Impacts (Elaborate below)*

- Option: Harmonising or allowing conversion between the different averaging periods used for LCPs in IED Annex V and the LCP BAT Conclusions

- → *Administrative Costs*
- → *Environmental Impacts (Elaborate below)*

- Option: Harmonising the approaches taken in accounting for measurement uncertainty in compliance assessment for LCPs and waste (co)- incinerators

- → *Administrative Costs*
- → *Environmental Impacts (Elaborate below)*

Where environmental impacts are present, please elaborate on the nature of impacts [Open text feedback]

6.2 IED overlap with Directive 94/63/EC

Commented [CS2]: EEB does not comment on this part for now, hence "do not know"

Directive 94/63/EC of 20 December 1994 on the control of volatile organic compound (PVR-I) aims to prevent emissions of volatile organic compounds during petrol storage at terminals and its subsequent distribution to service stations. However, the measures that PVR-I prescribes are both outdated and largely covered by other legislation, including the IED.

This section assignment seeks views and information on the extent to which PVR-I requirements are covered elsewhere. This will help inform policy decisions as to whether all or part of the PVR-I could be merged into the IED, whilst avoiding any lacunae / loopholes.

102. **To what extent is there overlap between the IED and Directive 94/63/EC?** [Significant overlap; Overlap; No overlap; Synergies; Significant synergies; Do not know]

Where significant, please provide more detail [open text response]

103. **To what extent are the provisions of Directive 94/63/EC outdated or redundant?** [Significantly outdated or redundant; Outdated or redundant; Not outdated or redundant]

Where significant, please provide more detail [open text response]

6.3 Incoherence between Industrial Emissions policy and related environmental policies

Accidents Doctrine for the IED

In the event of any incident or accident significantly affecting the environment, IED Article 7 requires that the operator informs the competent authority, takes measures to limit the environmental impact, and prevents further incident or accident.

Under the Environmental Liability Directive, (agro-)industrial plants permitted under the IED are liable for environmental damage. Accordingly, where environmental damage has not yet occurred but there is an imminent threat of such damage occurring, the operator shall, without delay, take the necessary preventive measures. In addition, where environmental damage has occurred the operator shall, without delay, inform the competent authority of all relevant aspects of the situation and take remedial action.

The Seveso Directive sets out measures to control and prevent major-accident hazards involving dangerous substances which might result from certain industrial activities and the limitation of their consequences for human health and the environment.

Clarification may be needed to establish the interface of IED Article 7 provisions with both the Environmental Liability Directive and the Seveso Directive, also with regard to land planning aspects, to align requirements and streamline where possible.

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104. **To what extent do accidents not regulated by the Seveso Directive have an impact on the environment?** [Major source of pollution; Minor of source pollution; Source of pollution; No impact; Do not know, Not applicable]

Emissions to air Emissions to water Releases to soil Land planning aspects

105. **To what extent is there overlap between the accident doctrines established by IED Article 7, the Environmental Liability Directive and the Seveso Directive?** [Significant overlap; Overlap; No overlap; Synergies; Significant synergies; Do not know]

Where significant:

a) Please specify the reason. [open text response]

Since the open text option is only available under "significant overlap" we ticked this option, also because the meaning of the question is unclear.

As we have highlighted in various sections in previous questions, there are synergies that need to be further explored with the Seveso III Directive or "significant overlaps" in terms of policy objectives. Those are complementary but could be mutually re-enforced. For most cases there are gaps to make those frameworks work together better for achieving common goals (see section on Non-Toxic Environment) and Q34 and Q48 in particular.

However, there are gaps in terms of the Environmental Liability Directive (ELD, 2004/35/CE), since other impacts of an industrial activity are not subject to liability (compensations), if that activity got permitted (even if that is a harmful activity). The EEB takes the view that a full external cost internalization shall take place and the operator of the industrial activity should be liable for this (e.g. climate and water impacts due to lignite mining, even if permitted).

Currently, under the IED provisions, persons which suffer damages following the operators' breaches of IED obligations cannot request and receive compensation for the damages suffered. The revision of the IED should include provisions regarding the person's right to request and receive compensation for damages in order to harmonize this matter at EU level. For more information, please refer to the answer in question 34.

We would like to reiterate here that, at present, such a right to compensation for damages caused by those breaches is not provided for under existing EU environmental law. In particular, the ELD, exclude such right expressly in Art. 3(3) ELD. We would therefore further advocate for revising the ELD, following the proposals of the European Parliament study on the Environmental Liability of Companies published in 2020 see the report here: Environmental liability of companies (europa.eu)

The opinions of the responsible Parliamentary Committees, aim to strengthen the regime for imposing liability on companies that cause environmental damage, and increasing the scope of damages such companies would need to account for (process on-going).

The same should apply e.g. for air pollution even if the emissions are within the 'BAT range". Liability of damage due to carrying out an activity is different from applying penalties due to breaching permit conditions. The right to compensation for damages shall also be recognised and provided in such cases as well. See further points on this aspect and examples from our member ClientEarth.

b) To what extent does this incoherence impact on annual administrative costs (relative to existing annual costs)? [Significant increase; Moderate; Slight; No impact; Do not know; Not applicable]

6.4 The definition of some activities is unclear

Clarify thresholds for (agro-)industrial activities

The definition for some activities is unclear and has led to ambiguity in some cases as to whether or not it is in scope of the IED. In such cases, options are under consideration to review and clarify the current definitions. This includes:

• Addition of specific threshold(s) for certain subdivisions of the 'chemicals industry', e.g., pharmaceuticals, to account for lower-scale 'artisanal' production.

106. **If specific threshold(s) for certain subdivisions of the 'chemicals industry', e.g., pharmaceuticals were added to the definition of activities under the IED to account for lower scale production:**

a. Which subdivisions of the chemicals industry would this be most relevant for? [open text response]

We do not think this is needed since Annex I (Section 4) lists chemical activities "on an industrial scale" that all have environmental or human health impacts. The activities are about chemical production activities. We do not see a risk that the IED would regulate "hobby chemistry type of application's and are not aware that this is a problem for Member States in the implementation. See earlier comment (or Q107) as to Annex II list of substances. It may be useful to list the active pharmaceutical ingredients list.

b. What reduction in annual administrative costs might there be for these installations in the absence of regulation by the IED? [multiple choice: Significant (more than 15%); Moderate (5-15%); Slight (less than 5%); No impact; Do not know; Not applicable]

c. What increases in environmental impacts would occur from the abovementioned chemical industry plants in the absence of regulation by the IED? [table to complete below]

- Emissions to air

→ *Significant (more than 15%)*
→ *Moderate (between 5-15%)*
→ *Slight (less than 5%)*
→ *No impact*
→ *Do not know*
→ *Not applicable*

- Emissions to water

→ *Significant (more than 15%)*
→ *Moderate (between 5-15%)*
→ *Slight (less than 5%)*
→ *No impact*
→ *Do not know*
→ *Not applicable*

- Emissions to soil

→ *Significant (more than 15%)*
→ *Moderate (between 5-15%)*
→ *Slight (less than 5%)*
→ *No impact*
→ *Do not know*
→ *Not applicable*

- GHG emissions

→ *Significant (more than 15%)*
→ *Moderate (between 5-15%)*
→ *Slight (less than 5%)*
→ *No impact*
→ *Do not know*
→ *Not applicable*

- Energy use

→ *Significant (more than 15%)*
→ *Moderate (between 5-15%)*
→ *Slight (less than 5%)*
→ *No impact*
→ *Do not know*
→ *Not applicable*

- Water use

→ *Significant (more than 15%)*

- → *Moderate (between 5-15%)*
- → *Slight (less than 5%)*
- → *No impact*
- → *Do not know*
- → *Not applicable*

- Other resources / materials use

- → *Significant (more than 15%)*
- → *Moderate (between 5-15%)*
- → *Slight (less than 5%)*
- → *No impact*
- → *Do not know*
- → *Not applicable*

- Waste generation

- → *Significant (more than 15%)*
- → *Moderate (between 5-15%)*
- → *Slight (less than 5%)*
- → *No impact*
- → *Do not know*
- → *Not applicable*

- Other (specify)

- → *Significant (more than 15%)*
- → *Moderate (between 5-15%)*
- → *Slight (less than 5%)*
- → *No impact*
- → *Do not know*
- → *Not applicable*

If you have referred to an "Other" environmental impact, please specify. [open text response]

107. **Where available, provide and/ or upload references to relevant studies to provide evidence for the environmental pressures rated as significant or moderate.** [open text response]

As stated above we do not see a need or validity to include a threshold for Section 4 of Annex I. Adding a trigger threshold is rather acting against the objective of the IED to prevent pollution from industrial activities, therefore the EEB opposes this unless there is a valid case (e.g. MS apply the "industrial scale" in uneven way).

If that were the case the lowest threshold application-level trigger is to be set, where a MS does not apply any threshold this means the IED is fine as it is. To be on the safe side, the word "industrial scale" should be deleted, which could solve the issue in a more effective way, avoiding needless negotiations.

7 Survey close

108. **Are there areas other than those considered in this survey for which you would like to suggest options?** [open text response]

We have identified an important omission regarding the options to address problem no. 4 ('Innovation - state-of-the-art cannot respond satisfactorily to problem areas #1 to #3').

Wider Sevilla process (BREF review related issues)

One of the options that has not been sufficiently considered so far is the process of developing / reviewing the BREFs (the so-called 'Sevilla process'), as well as the current characteristics of the resulting BAT conclusions incl. their scope (no value chain considerations), their format (not promoting the uptake of the most effective or innovative techniques) and other aspects.

Regarding the 'Sevilla process', there are several ways in which it could be optimised:

1) **Key Environmental Issues (KEI) shortlisting procedure:**

   The European Commission has been pushing for a concept called "Key Environmental Issues" (KEI) in order to arbitrarily restrict the scope of the relevant BREF reviews. The KEI concept neither exists in the IPPC-D Recast provisions nor in the BREF review rules itself. It merely is a workload management (reduction) measure that in effect reduces the practical impact of the BREF in terms of pollutants covered or issues addressed. Criteria to assess what is KEI have been introduced such as "relevance", "significance thresholds" or the like which are arbitrary and pre-emptive to any BAT-C made. This approach is a clear reversal of the burden of proof on those willing to have a larger scope and more comprehensive BAT-C (pollutants and issues to be covered): "evidence" is to be provided from the start even prior to the data collection. Even then the approach is not consistent, as a recent example on the Smitheries and Foundries BREF review suggests: In the EIPPCB Background paper it is for instance stated that cobalt emissions to water is monitored in AT, the EEB did provide data on 6 facilities in the US showing this pollutant is emitted in the sector. The EIPPCB reaction was: "*it is not clear if monitoring data are available throughout the EU foundry industry" + "only six foundries (total release 28kg/year) in the US TRI database on emissions to water from water*". The EIPPCB Conclusion (suggestion): not to list as KEI, not to collect data. A similar approach was taken on other metals (manganese, aluminium and iron).

   This concept is favorable to maintaining the scope of the BREF as restrictive as possible, and not to address all possible issues that could be relevant from environmental protection or that the IED requires to address. Finally, significant time is lost in debating the KEI decisions instead of re-considering the focus after the data collection, meaning this approach is also counter-productive and time-inefficient.

   Policy suggestion(s): The KEI approach has to stop with immediate effect under the current format. The EIPPCB / COM services should instead spend that time and effort in delivering on improved performance benchmarks on the aspects listed in Annex III IED and take a broad approach as to the pollutants and issues covered. This requires earlier and deeper exchange with the scientific community (universities, EEA) or other institutions e.g. ECHA through frontloading. Should the focused approach be maintained we wish to remind about our points made in the "EEB paper on KEI determination 09/06/20017"[https://eeb.org/library/eeb-comments-to-the-european-commission-study-preliminary-determination-of-key-environmental-issues-kei-for-industrial-sectors-in-bref-reviews-under-the-ied/ Or https://www.dropbox.com/s/mc99pxatz1ivfc9/2017%2006%2009%20EEB%20input%20on%20EC%20study%20on%20preliminary%20KEI%20%20determination_FINAL.pdf?dl=0]

The BREF review rules / the IED provisions should ensure that the following approach is implemented:

o Systematically address the SIN 2.0 and ETUC SVHC priority list (hazard-based approach) and check if that substance is occurring in the industrial activity subject to review.

o Systematically address all Annex II Air and Water substances based on intrinsic properties and without any "relevance" thresholds. For PBT / vPvB property chemicals the thresholds should be "detection limit".

o Special attention to be given to critical air pollutants included in the EU National Emissions Ceilings Directive and the Air Quality Directives; same with critical water pollutants categorized as 'priority substances' or 'priority hazardous substances' under the EU Water Framework Directive.

o Improved and mandatory consultation with ECHA in screening and shortlisting of relevant chemical substances as to use phase.

o Include GHG in the list of pollutants.

o Include ozone depleting substances and substances with global warming potential (e.g. refrigerants)

o Address type of energy consumed in terms of environmental profile and wider resource consumption - more robust BAT conclusions on resource efficiency are needed, as the majority of BAT conclusions focuses primarily and highly on emissions.

o Address site remediation and accidents prevention, focus should be on soil (and groundwater) pollution prevention – Around 81% of annual national expenditures for the management of contaminated sites is spent on remediation measures, while only 15% is spent on site investigations.

o Effectiveness ranking to be made on the various BAT candidates in relation to possible achieved environmental and human health protection outcomes.

o Clear principle of preference for emission prevention over emission reduction.

o Address human health related aspects occurring from the industrial activity itself e.g. the selection and use of certain harmful chemicals, diffuse emissions from the products or other outputs of the industrial facility.

The concept of focussed approach may indeed be considered when discussing the ambition level of the BAT-C. We expect these to be proportionate to the need for preventing pollution from the given sector. It may therefore not be acceptable to have less strict standards within one sector whereas the technical configurations or abatement potential in another sector are very similar e.g. air pollution standards differ in Waste Incineration, Cement, Lime and Magnesium Production, other combustion activities in Refineries, Iron and Steel, and LCPs. The same rationale applies to water emissions.

2) **BAT definition and the BAT-AE(P)L derivation methodology:**

The current BAT-AEL levels are based on currently observed average emission levels of EU reference plants on a given period of time by the use of certain techniques under certain permit conditions, not on the technical potential of various BAT candidates to prevent / cut pollution e.g. performance output at maximum technical abatement feasibility of a given BAT candidate or combination of various BAT candidates (or established BAT).

There is a practice to require at least one-year monitoring data, whereas this is neither required by the IED nor the BREF review rules. That high hurdle is not necessary in US rulemaking, where representative stack tests of a few months of 10% of best performers in the participants pool can set the rule for the whole of a sector. Worse, the EIPPCB also has introduced the concept of "geographical distribution" or "representativeness" in Member States of given BAT candidates although the BREF review rules are very explicit that BAT can be set on the basis of just one reference installation operating around the world, including the EU.

This means that the amount of data provided to derive a BAT-AEL can be very high, but from a qualitative perspective (ambition level of BAT) this approach is not of added value (loads of data to process, many installations claiming to be BAT and wanting to align the proposed BAT level above/to their level under business as usual).

The 'expert judgement' is not about what the various techniques could achieve in terms of environmental performance. Clear examples are when a BAT-C proposes a long techniques catalogue and adapting various BAT-AEL ranges to the technique options chosen by the operator e.g. emission level <X with technique A – emission level Y with the more common technique B used in the EU (e.g. Iron and Steel BREF, CWW BREF). Similarly, it may happen that two sets of BAT-AEL are set which are clearly differentiated to the techniques used (e.g. primary DeNOx / secondary DeNOx or various BAT-AEL depending variations of de-dusting techniques used such as ESP or Bagfilter). It is clear that the choice for operators to select certain techniques takes precedence over intended outcomes of the BAT-C. This is not in line with the outcome oriented "technical" focused approach. The opposite may also happen, that due to lack of data (either deliberate withholding or self-imposed "representativeness" hurdles) no BAT-C is derived, meaning that the sector not pro-actively providing information is actually rewarded with the absence of environmental requirements. This happened in particular for performance based BATAE(P)L, where "confidential information" / lack of information has been invoked to either dismiss or declare those BAT-AE(P)L as "indicative" only (e.g. FDM BREF).

There is no method in place as to a) reference plant selection: (in some cases very unhelpful criteria like "geographical distribution" where used, whereas it is sufficient to just have a promising BAT candidate operating somewhere in the world, no outcome oriented criteria are uses and b) where to cut the upper BAT-AEL level, it is often referred to as "experts judgement" but this is (unfortunately) not true. (Upper) BAT-AELs (which become de facto permit limits) are often adapted to economic concerns by the operators. These cost claims are not backed up with any facts nor even put in perspective with possible public benefits.[GB1] [CS2] Irrespective of the above, this approach undermines the Art 15.4 derogation procedure – extremely generous and flexible for Member States – where a second set of Cost Benefit Assessment (CBA) is conducted to circumvent compliance with stricter environmental performance requirements, despite already being judged as "economically viable for the sector as a whole" (Sevilla level decision making, where industry interests are over-represented).

The current approach in setting the (upper) BAT-AEL creates frustrations from all stakeholders. A more robust and clearer BAT derivation methodology would bring considerable benefits not only in terms of enabling a quality performance assessment of the outputs (the BAT-C content) but also serve as a more transparent "expectations management tool" for all stakeholders involved in the decision making.

The term "emerging technique" is also not robust. There are cases where a technique considered as "emerging" at the time of the BREF review is since long emerged when the compliance deadline arrives: in general a BREF review takes at least 3 years, then up to 2 years can pass before the BAT-C are published in the OJEU, from that moment on there is an additional 4 year legal deadline for compliance. This means that in practice the data basis / technical considerations basis used for the BAT-AEL determination is already outdated by at least 9 years.

Finally, many BAT-Conclusions exclude through applicability restrictions certain categories of plants in terms of size or operating regimes. These exclusions are not based on technical arguments but "align" to lowest common denominator legal requirements that were politically agreed. Derogatory situations due to industry lobby have however nothing to do with state-of-the-art practice (e.g. the LCP BREF 1500 hours / emergency or Chapter III exclusions for certain plants have been incorporated in part in the revised LCP BREF). The common assumption is that some Member States have already agreed through a political process that those sources would not be that "relevant" or of an issue to the environment. Yet this is certainly not true (in particular when considering that those plants are in a derogation mode from common pollution standards and have frequent start up phases where high pollution occurs which is not subject to clear measures under the BREF). This means that the BREFs do not cover the full environmental impact of industrial activities.

Some BAT-AE(P)L have been labelled as of "indicative" value, the same has happened for certain monitoring parameters. The BREF should refrain to set "indicative" BAT -C (e.g. monitoring requirements or BAT-AE(P)Ls because these terms clearly undermine its legal status).

Further it is important that the BREF sets best practice and uses clear wordings as to the requirements to achieve a clear impact in implementation. Often clearer and more prescriptive BAT-statements e.g. requirements on indirect emissions monitoring, lower frequencies if emissions are "proven to be sufficiently stable" or rewording of text introduced in BAT-C as to unclear and subjective terms such as "relevance" thresholds were resisted on the basis of excuses that those wordings relate to "implementation issues". The real political agenda behind deletion or use of unclear text is however to enhance flexibility for Member States and industry to take a differentiated approach in implementing the BAT-C. This approach is not effective and counterproductive to the harmonization of standards to deliver improved ambition.

Affected provision(s) include, in particular, Art 3(1), Art 13, Annex III, BREF review rules, legal terms or text used in the BAT-C.

Policy suggestion(s): See EEB proposal on BAT-derivation methodology for more details.

https://eeb.org/library/comments-and-suggestions-for-improved-bat-determination-methodology/

Some key principles are as follows:

o The BAT derivation methodology should reflect the primacy of environmental protection within the IED of environmental protection outcomes to be achieved (clarify the BAT concept to mean technical achievable performance levels, taking into account the integrated approach (cross-media impacts).

o A clear methodology to cut the "true best" performers from average performance, with clear safety nets. Amend the legal provisions to require the BAT-AE(P)L to set performance levels that are technically achievable and to refocus on best environmental outcome focussed approach. Establish a BAT ranking exercise and not allow multiple choice / free choice to industry to pick and choose less efficient techniques.

o Cut-off points for the upper BAT-AEL range based on environmental outcome-oriented eligibility criteria should be set: i.e.

(1) Level 1 cut off point: compliance with previous BREF conclusions.

(2) Level 2 cut off point: not to exceed any binding national rule (legislation) in force during the timescale of revised BAT-C compliance.

(3) Level 3 cut-off point: the upper BAT-AEL is set at the technical feasible levels of a technique, only allow deviation and adjustments based on sound criteria in line with the integrated approach of the IED (adjustment could only be made on the basis of a demonstrated negative cross media effect, the effectiveness of a certain technique is compared to other competing techniques in terms of environmental performance outcomes (main ranking criteria).

o A more flexible and forward-looking approach allowing information generated through specific stack tests / other information of BAT-Candidates to be used for setting BAT-C.

o A fast track update procedure for emerging techniques / emerged techniques prior to publication.

o A clear shift of debates about proportionality of costs versus benefits to be taken through Article 15(4) which should be plant specific and subject to public consultation, with much clearer framework conditions of what cost methods to use in order to rule out economic concerns only. Allow possible applicability restrictions based on strictly technical arguments or negative cross-media justifications (in line with integrated approach). Any cost implications to operators is to be compared against a full impact assessment for the benefits (health and environment) and compliance support of the EU environment acquis.

o Not allow arbitrary exclusions of certain plant sizes or BAT-C due to legal arguments e.g. "this issue is addressed elsewhere", rather check on whether that other framework sufficiently addresses the potential improvement potentials on pollution prevention/ reduction.

o Redefine the term "existing" installation in line with the cut-off point of the reference year of the data used for BAT-derivation.

o Not allowing any "indicative" BAT-C (BAT-AE(P)L)) or monitoring.

o Clear prescriptive requirements on the BAT-C texts, as to issues / provisions that may affect the impact of the implementation of the BAT-C (e.g. enhanced compliance promotion, restricted flexibility for Member States permit writer to adapt BAT-C requirements due to vague wordings).

3) **Technical Working Group (TWG) composition:**

Experience has shown various deficits in having a balanced view expressed between the various interest groups present. Article 13 IED states that the information exchange should be made between the following groups: industry concerned, NGO promoting environmental protection, Member States and the European Commission.

The unbalance is extreme when comparing the number of operators represented within the TWGs and the IED Forum versus public interest groups / NGO. It is correct that NGO involvement is limited mainly due to absence of dedicated resources, however, it is difficult for NGOs to overcome this limitation due to (financial) resource constraints and lack of technical expertise that is not connected to / employed by industry / public authorities.

Only operators are presented within the "industry concerned" category, technique providers or other industry with conflicting interests are not directly presented within the "industry concerned" group.

Further to that, certain Member States did / still do nominate clearly industry affiliated "experts" to represent them in the TWGs. The worst example was in the LCP BREF review (see the Greenpeace report entitled: 'Smoke and Mirrors: how Europe's biggest polluters became their own regulators[2]'. This practice remains ongoing – for example, PT, CZ, SK, UK, and HU had industry affiliated experts attending within the Member State delegation in some official BREF meetings. The Commission did recently clarify (IED forum of 27 November 2018) that Member States should not nominate industry affiliated groups to attend at these meetings under a Member States delegation, which is most welcome to address that clear conflict of interest point.

However, a solution should be found on how diverging industry interests from the "industry concerned" group can be better balanced.

Irrespective of the unbalance of operators versus tech providers issue, the Member States are treated in preferential manner to the NGO stakeholder group on the following counts:

1) Access to confidential business information (CBI)

Member State representatives have access to the CBI claims made by industry, but NGOs do not. However, NGOs cannot be considered as a competitor of the industry and should have equal access to the CBI claims / full dossiers as well. At least a list of the CBIs claimed including the type of information and the reasons behind should be made available to both the Member State and NGO representatives. *(please see the answer to question 66 on CBI point and EEB suggestion).*

2) Member States have voting power and can "overrule" consensus reached at the TWG level

Member States have considerable power to influence the outcome of the "technical" debates at the Final TWG by threatening with split views or voting against a certain outcome. Even if not admitted by the European Commission, a high number of oppositions raised by Member States delegates – due to political reasons to the benefit of economic concerns of their industry – has sometimes had an overruling effect of technical based conclusions.

Member States can indeed vote against draft BAT-C if they disagree for whatever reason, in most cases political reasons because their industry is unhappy with the outcome and would rather prefer to accommodate the BAT-C so they would not even have to bother filing an Art 15(4) derogation.

Some examples:

E.g. 1-4 LCP BREF: some chapter III derogated plants e.g. 3 CHPs and LLD opted out plants were "taken out" of the scope of the LCP BREF BAT-C, despite opposition on this point by the EEB at the forum (this was to win support from FIN, ES, FR, CZ, POL, etc that used these derogation)

The EIPPCB also introduced an arbitrary extension of a footnote relaxation enabling industrial boilers and district heating plants to be able to emit NOx up to 365mg/Nm^3, more the triple of the regular upper range (110mg/Nm^3), initially this was limited to plants <500MWth.

As a result, the EEB tried to suggest a "damage control" amendment that would limit the considerable relaxation of protection standards that have been introduced by the European Commission following the IED Forum (see more information here http://eipie.eu/the-sevilla-process/lcp-bref

See more information about the various derogations pushed for by Member States here http://eeb.org/publications/61/industrial-production/2410/notes-on-the-main-discussion-points-and-positions-taken-by-member-states-at-the-20-october-2016-ied-article-13-forum-meeting-on-the-revised-lcp-bref.pdf

e.g. 5 the "bubble approach" in REF BREF got forced through in the BAT-C, despite strong opposition by EEB and Austria. Other Member States also were not happy with the low ambition of the BAT-AELs set (see the no of split views). It is the first time an intervention by a prime minister was made in a BREF review process, to please its industry (here it was the French PM Jean-Marc Ayrault under President Hollande, advocating for the bubble approach to be considered BAT) .

NGOs do not have a "second chance" to amend the upper BREF ranges, which are currently the most relevant for the permitting phase. The derogation provision does – as it stands – only relate to exceeding the upper BAT-AEL, not the ELV setting within the range nor below the stricter BAT range, which in all cases reflect the true BAT level for the sector.

There is an aspiration to have consensus-based decision-making. However, this aspiration should be sub-ordinate to the objective of the information exchange itself and should not lead to an absurd situation where the lowest common denominator results as the "compromise". If there are technical facts which show that a certain pollution level is achievable then objections to the contrary or any weaker compromise non-feasibility) or demonstrated negative cross-media effects in line with the integrated approach of the IED.

Economic or proportionality concerns such as benefits versus cost arguments of implementing a technique should not be allowed to weaken a certain BAT-C conclusion. This should only be addressed under the possible derogation procedure as per Art 15(4).

Affected provisions include, in particular, BREF review rules (or established practice), Art 13, other COM house-rules, Art 75.

EEB Policy suggestions: improved balancing of powers in the TWGs / IED forum / damage control by NGOs prior to voting (stopping political interference):

The following frameworks need to be put in place:

1) A **conflict-of-interest policy** so that the experts involved in the exchange on behalf of governments do not have links to the industry concerned – a clear prohibition on operators acting within the TWG on behalf of the Member States (in written submissions and for the official BREF meetings). The latter is settled by the European Commission (27 November 2018 IED forum). This should also include conditions and incentives that guarantee that the BREF authors will act in the public interest and their work outputs are aligned to the policy objectives of the IED. A BREF author pre-screening board should be put in place that includes a balanced representation of the Member States, the NGOs and the industry group;

2) Rules enabling a **balanced representation of interests** – as currently industry is over-represented whereas NGOs are under-represented in the process. If no equal seat allocation is feasible then the balanced representation should be ensured through giving more weight to NGOs that do participate (differentiated weighting in the consensus finding, more speaking time).

3) Rules for the decision-making process e.g. for consensus finding when critical decisions are to be made. Consensus should mean consensus between the various interest groups present and not a number counting exercise of TWG delegates around the table.

These rules could be along the following lines:

Member States: the Council majority rules could be used, those countries that have implemented previous BREF standards should have a higher standing compared to counterparts that did not require their industry to implement the previous BREF benchmarks.

For the industry concerned group: it is proposed to split these in 3 sub-categories:

a) the operators

b) the technique providers (independent from the operators) and

c) the competing industry (e.g. specialised waste industry groups versus cement industry or operators of LCP versus energy efficiency solutions providers). These sub-industry groups should be represented in a balanced way. Due to certain concerns by technique providers not to upset their future clients it is proposed to set up a special working environment where these could contribute more frequently and freely: E.g. when applicability restrictions, costs or performance levels are challenged by the operators the technique providers should be able to provide a differentiated assessment only with a restrictive group (operators not present).

Environmental NGOs: because they are the most neutral stakeholder category vis a vis affected industry, NGO representatives should have a special power to balance a certain decision which does not meet consensus in a certain direction.

This could take the form of:

Option a) a dedicated NGO objection right, based on outcome-oriented criteria (as to suggestions in point 1.2) that can be invoked during the TWG and prior to the finalisation of the EIPPCB opinion contained in the Background documents.

Option b) establishment of "IED compatibility scrutiny board". The IED compatibility scrutiny board, composed of public interest NGOs and chaired by an experienced NGO in the Sevilla process, should provide its favourable opinion on the final draft text submitted to the TWG (Background papers) and Member States prior to the vote (final draft BAT-C). Its opinion would change the voting pattern by the Member States.

Any requested change by a Member State or the European Commission would be considered by that IED compatibility scrutiny board. The consultation of the scrutiny board should take place prior to:

o the establishment of the opinion of the EIPPCB in the Background documents; and

o translation of the final draft BAT-Conclusion following the IED Forum into a draft Commission Implementing decision.

If the proposed amendment / proposal receives a favourable opinion (or no opinion), a qualified majority by the Member States in favour would suffice to adopt the amendment and the draft Commission Implementing text. In case of a negative opinion, that amendment / draft Commission Implementing text could only be amended and adopted if there is a qualified absolute majority of Member States in favour.

4) The same considerations as mentioned under point (1)-(3) should also apply to the information exchange at Member States level i.e. BREF mirror groups, the IED Article 13 should be amended accordingly.

5) Output performance indicators should be laid down on the Commission services in charge of organising the BREF reviews. These could relate to the following:

o Time efficiency for publication in the OJ of the revised standard; and

o Improvement level of the revised BREF as to scope, pollutants and issues addressed and in particular the ambition level compared to previous BREF (what is the possible added value for human health and environmental protection, ecological transition of the industry).

6) The voting by Member States to confer binding status on the BAT-C should be reconsidered. During the IED co-decision, the European Parliament proposed an automatic IED safety net extension/update procedure. There have been unacceptable moves to change substantive elements of agreed outcomes at Final TWG to the worse just because of threats of Member States not to adopt the BAT-C (following intensive industry lobbying).

Examples: the introduction of the "bubble approach" for refineries, the exclusion of LLD and CHP plants from the LCP BREF scope. See proposal: dedicated NGO objection right and establishment of "IED compatibility scrutiny board". The voting power by Member States should be reconsidered and conditional to purpose oriented interventions aligned to the IED objectives – not short-term industry interests.

7) The involvement of independent scientific community should be promoted.

Need for clear and unequivocal BAT-C (for improved implementation)

Furthermore, we would like to provide a specific example (related to Q 28), where the lack of clarity and guidance for the permitting process, may allow the evasion of requirements by certain operators:

It is related to the revised BREF on waste incineration (WI BREF). A loophole that survived into the revised WI BAT conclusions may allow operators to pollute more if they add biomass – like wood chippings or vegetable waste – to the materials they already burn.

As per the vaguely-formulated scope of the revised standards, certain waste co-incineration plants burning only 100% non-biomass waste, will need to follow tighter rules and cut their emissions, but if they mix their wastes with biomass they could be exempted from the WI BAT Conclusions.

For more information please see below a letter sent to the European Commission prior to the adoption of the standards:

https://eeb.org/publications/59/industry-health/98550/letter-to-european-commission-on-bat-for-waste-incineration-2019.pdf

We are now in the first year of implementation of the WI BREF, and we have been informed by our NGO members operating in different EU countries, that there have been attempts by operators to take advantage of this vague scope formulation to support the case that they are only obliged to comply with the less stringent requirements of the EU Directive 2015/2193 on the limitation of emissions of certain pollutants into the air from MCPs, known as the Medium Combustion Plant Directive (MCPD).

EEB participated in a webinar organised by ESWET, the European industry association representing technology suppliers to waste-to-energy plants, marking one year of implementation of the WI BREF, where it was confirmed that this case of implementation is not a straightforward one.

It should be clear that whenever waste is being burnt the WI BAT Conclusions apply. This will ensure that dedicated standards developed for waste incineration will be followed to prevent/reduce harmful impacts for human health and the environment.

We shall avoid such cases for occurring.

Our suggestion is that the European Commission develops an overview of the activities covered by the scope of the different BREFs, in order to identify such loopholes and clarify under which BREF any given activity is covered. This overview shall be elaborated, taking into account the opinion of the IED Article 13 Forum. This could be included under IED Article 13 itself, describing the role and activities of the Forum.

In cases that uncertainty still remains, a guidance by the European Commission would be needed, to accompany any revised BREF, in order to ensure a homogeneous implementation across and within member states. This could be included in the BREF review rules.

- **Regulation instead of Directive**

A European law on industrial emissions will be one of the key legislations to translate the targets and strategies under the European Green Deal into concrete legal wording (see esp. Chapter 2). This is especially valid for the ambition to achieve zero pollution and climate neutrality by 2050 the latest. Against this backdrop, a Regulation is a more appropriate legal form than a revised Directive. A Regulation can impose clearer, more precise and unconditional obligations and can all the more solve some of the implementation issues acknowledged especially under Chapter 1.

- **Strengthening link to Fundamental Rights**

A stronger Industrial Emissions Directive, including stricter BAT-AELs, binding BAT-AEELs and BAT-AEPLs, clearer rules on setting stricter permit conditions as well as improved access to information, public participation and access to justice, will have positive impacts on public health, social equity, environment and fundamental rights. Health benefits are linked to laws on clean air, clean water and clean soil. Likewise, these provisions are essential for a thriving society and economy.

While the mutually beneficial interrelation of environmental and human rights protection is recognised on international and European level, it needs stronger links in the concrete legislation to get a justiciable rights instead of declarations only.

The IED seeks to protect the environment and human health. This is especially clear in one of its key definitions about "pollution" (Art. 3(2) IED: "'pollution' means the direct or indirect introduction, as a result of human activity, of substances, vibrations, heat or noise into air, water or land which may be harmful to human health or the quality of the environment, result in damage to material property, or impair or interfere with amenities and other legitimate uses of the environment;".

The goal of the IED becomes all the clearer when looking at other provisions focusing on human health, such as Art. 3(9), 8(2), 22(3, 4), 23(4), 30(1), 36(2), 42(2), 46(1), 52(1), 59(2), 64 and Recital 18, 27, 29, 34, 35. Especially Recital 27 IED highlights that people concerned should have access to justice in order to "contribute to the protection of the right to live in an environment which is adequate for personal health, and well-being".

However, the current legal wording has still flaws: Art. 1 IED about the subject matter does not even mention "human health" next to its aim to achieve a high level of protection of the environment taken as a whole (possibly because human health effect are included in the definition of "pollution") but listed in many other provisions of the IED, although this is common in comparable legislation to mention in the first article and underline it in the recitals, see for example Air Quality Directive (Directive 2008/50/EC) Article 1 – Subject matter, recital 30; the REACH Regulation (Regulation (EC) No 1907/2006) Art 1, 3, and recital 131..

Next to the improvements needed described in Chapter 1.1 and in particular in Chapter 5, to facilitate seeking to enforce the law, more emphasis on the link to human health and corresponding fundamental rights is needed to protect those most vulnerable to the effects of climate change and pollution. The Commission has now the opportunity to ensure zero pollution and social equity go hand in hand by strengthen the IED as one of its legal framework for human rights and environment.

Against this backdrop, the EEB would wish to stress that improving air, water and soil would impact supporting a high level of protection of health and environment (Art. 35, second sentence, and Art. 37 of the EU Charter of Fundamental Rights). It also contributes to the protection of the fundamental right

to life (Art. 2 of the Charter)[2], the right to private life (Art. 7 of the Charter), the rights of the child (Art. 24 of the Charter) and human dignity (Art. 1 of the Charter). The revised legislation may also enhance the implementation of the right to an effective remedy (Art. 47 of the Charter). In addition, cleaner air, soil and water are essential to implement the equality and non-discrimination obligations under Art. 21 of the Charter.

This point has been made under Q9 but is added here again for completeness reasons

- ***List of substances in Annex II:***

This point is rather generic and is further developed in Q108 (omissions).

Annex II with the list of substances has not been reviewed since the IPPC Directive, even if the listing is taking a rather broad approach. The EEB has already provided comments as to which substances/pollutants are relevant for the BAT determination [see EEB input to KEI determination https://www.dropbox.com/s/rqh2pl298xba8vg/2017%2006%2009%20EEB%20input%20on%20EC%20study%20on%20preliminary%20KEI%20%20determination_FINAL.pdf?dl=0]

Notable illustrations for addition are the following: Annex III refers to all "hazardous" substances and hence links to CLP regulation. The IED should also systematically address all chemicals of "concern" (see www.subsport.eu/listoflists). This should also consider substances relevant to workers protection.

For the "water" compartment point 5 refers to "persistent hydrocarbons and persistent and bio-accumulable organic toxic substances". We question the validity of cumulative hazard criteria being applied, theses should be alternative criteria ("and' to be replaced by "or"). The current wording is likely inspired by the PBT concept in REACH Annex XIII. However, vPvB substances should also be added for consistency with REACH. Furthermore, substances with any of the following properties (persistency, mobility or toxicity) warrant caution and regarded as sufficient for hazard identification by many independent experts and it should be added as well e.g. PFAS, carbon-free polymers. In regards to listing the substances with the mobility criterion "M", the Chemicals Strategy for Sustainability highlights in the "Chemical pollution in natural environment" (p13 https://ec.europa.eu/environment/pdf/chemicals/2020/10/Strategy.pdf) to support a linking to those substance groups e.g The Commission will:

• propose new hazard classes and criteria in the CLP Regulation to fully address environmental toxicity, persistency, mobility and bioaccumulation;

• introduce endocrine disruptors, persistent, mobile and toxic and very persistent and very mobile substances as categories of substances of very high concern.

Referring only to the organic origin of the substances not its properties of harmful effects may also be too limitative, for instance to capture micro-pollutants that do not fall in another category. Further, no link is made to 'watch list' substances under the Water Framework Directive (new entries) nor other active pharmaceutical ingredients, other pollutants that do not possess rapid bio-elimination potential in water. The IED should also list relevant substances that are covered under Directive 2006/118/EC on the protection of groundwater against pollution and deterioration (Groundwater Directive) as well as those listed under the revised Drinking Water Directive 2020/2184. Stricter emission limits to water should be considered if the recipient is a drinking water source.

An inter-active link should therefore be made to other source or thematic legislation e.g. CLP/REACH, Water Framework Directive and the Drinking Water Directive, including for substances emitted to air that can affect water quality by atmospheric deposition.

For the air media we call for addition of GHG and substances with ozone depleting potential. Further substances may also be relevant to soil pollution (e.g. sewage sludge) or wider resource impacts and those environmental media need to be considered due to the integrated approach of the IED.

- **Restrict abuse of Article 15.4 derogations by considering further policy options** (see Q21) : The EEB proposed at several occasions to take a 'fast track adoption of BAT-C' under the IED format (COM implementing decisions) and make parallel use of the EU safety net extension provision provided by Article 73 (both approaches are complementary).