Supporting contract for an assessment of options for the revision of the Industrial Emissions Directive

Objectives of the study

The European Commission is committed to reviewing the legal framework of Directive 2010/75/EU on industrial emissions (IED) under the European Green Deal.

In parallel, the Industrial Strategy for Europe highlights the need for new processes and technologies, innovation and investment to facilitate industry's shift to a climate neutral, clean and circular economy.

The review aims to support the European Green Deal goals on zero pollution, climate neutrality, biodiversity and a cleaner, more circular economy through the following objectives:

- **Maintained (and enhanced) environmental protection** from pollution arising from EU (agro-)industrial plants
- **Greater use of techniques** that create a **more sustainable EU economy**, and a **cleaner environment** that improves public health while **supporting a competitive and resilient green and digital transition to climate neutrality**
- **Improved public access** to environmental information
- Supports the **coherent revision of the IED** and related legislation, where needed.

To support the revision of the IED, work will be undertaken to understand the problems at stake and their drivers, and to identify alternative policy options that can address them while achieving the overall policy objectives in a more efficient, coherent and clear manner. The general scope for the revision of the IED is set out in the accompanying IED inception impact assessment, providing a starting point for the options under development.

The consultancy, Ricardo, is supporting the European Commission with an impact assessment for the IED revision, which includes stakeholder engagement activities. If you have any questions about this consultation, please do not hesitate to contact us at IED.Revision@ricardo.com.

This survey – all questions

Overview

This survey gathers feedback for the IED impact assessment from stakeholders involved in the implementation of the IED. It includes questions grouped under **6 problem areas** that will be targeted by the options under consideration for this impact assessment study. The problem areas are:

1. The environment is polluted (split by zero pollution ambition and non-toxic environment)
2. Climate crisis is happening
3. Natural resources are being depleted
4. Innovation - State of the art techniques cannot respond satisfactorily to problem areas #1 to #3
5. Private individuals have limited opportunities to get informed about, and take action regarding impacts caused by (agro-)industrial plants
6. Excessive burdens may affect the efficiency of policy instrument(s)

To help you, a glossary of terms is available here – please refer to it for definitions related to industrial emissions policy as referenced throughout this survey.

About you

Questions to all stakeholders

Name: Eva Blixt

Name of organisation or institution: [Jernkontoret]

Email address: eva.blixt@jernkontoret.se

Country of residence: [SWEDEN]

Stakeholder type: *[Member State authority - National; Member State authority - Local/Regional;Industry; Environmental NGO; or Other (please specify) [open text response]]*

Scale of operation: [*Multinational; National; Regional; Local*]

After completing this questionnaire, are you happy to be contacted for:

- Any clarifications, [*Yes; No*]
- A follow-up interview, [*Yes; No*]
- Further updates on the evaluation? [*Yes; No*]

Questions to industry

Organisation size: [*Micro (1 to 9 employees); Small (10 to 49 employees); Medium (50 to 249 employees); Large (250 or more)*]

DISCLAIMER/INSTRUX to the reader of this document

This paper focuses only on the TSS. Regarding the upcoming work on the revision of the IED, we have many important concerns regarding the IED itself, BREFs and the Seville process. We welcome the possibility to further participate to interviews and focus groups as well as the foreseen case study on steel. The document includes questions for all stakeholders and for industry. Questions for the Competent Authorities are deleted, except question 16 Landfills, as industry doesn't have the possibility to reply one-line to this question.

We have only replied for steel sector and activities associated to our sector. When it is Not Applicable (NA) for the sector, replies are left empty instead of replying NA (e.g. question 1-20). When NA have been used, e.g. question 81, it's because the question a such is really not applicable for steel sector. When a question doesn't have an adequate level of flexibility in the replying options present – e.g. questions 2, 9, 21, 28, 33, 35, 71-72, 79, 80 the option No Impact (NI) has been chosen. One example is when the suggested policy options doesn't allow to take an integrated approach with cross-media effect on all the different emission AND the effect on use of e.g. energy and water. We have added these aspects in the column *Others* and used the reply NI in all columns. For questions like 79, the scale is different to other questions and it's not possible to choose don't know or NI. We do not agree that there is an untapped potential, even low, for some of the suggestions, e.g. binding BATEAPLs, but its only possibility to use is low or leave empty. But leaving empty means NA for our sector and the suggested policy option will harm the steel industry if decided.

Where open text responses or YES/NO reply are done – this is marked with green to be easily found.

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

(Agro-)industrial plants continue to pollute the environment. Whilst the IED has led to reductions of pollution from some 50 000 large-scale (agro-)industrial plants, not all polluting (agro-)industrial activities are covered.

One approach to addressing this problem is to extend the scope of the IED to include additional (agro-

)industrial activities. These would then be subject to IED permitting under the IED. In such cases, it will be necessary to establish the scale of economic activity and their associated environmental pressures.

As set out in the accompanying inception impact assessment, the following (agro-)industrial activities are currently outside the scope of the IED and options are under consideration to include them:

- **Intensive farming** (cattle farms and mixed livestock farms, aquaculture). Mixed livestock farms are already within the scope of the IED for cases where intensive rearing of poultry and pigs exceeds the activity thresholds in IED Annex I individually. The option being considered is to introduce a sub-activity to 6.6 which is mixed livestock farms for which the activity threshold could be expressed in Livestock Units (LU) or emissions totals. This would allow combining the livestock places for poultry and/or pigs and/or sows into a single threshold.
- **Mining/ quarrying industries.** This could be brought into line with the E-PRTR activities 3a (underground mining-no threshold) and 3b (opencast mining-with area threshold). Such scope extension would require consideration of the interplay with Directive 2006/21/EC and/or the corresponding BREF.
- **Upstream oil and gas industries (extraction)** (currently subject of BAT Guidance Document on upstream hydrocarbon exploration and production, voluntary).

In addition, there are other (agro-)industrial activities (not identified by the IED evaluation or set out in the inception impact assessment) that are under review:

- Include **battery production**, including **manufacturing of industrial, automotive, electric vehicle and portable batteries (regardless of their shape, volume, weight, design, material composition, use or purpose),** while also recognising battery compound production (i.e. chemicals) is already covered within the IED's present scope; and **battery disposal and recovery** (to the extent not already covered by activity 5.1). The rapidly changing scale of battery production, disposal and recovery is a key driver in determining whether this sector should be regulated under the IED or not.
- **Ship building** (other than coating) and **ship dismantling** – shipyards are partly covered under IED Activity 6.7 (for the coating activity) but ship building processes (other than coating) and dismantling activities are not covered.
- Certain downstream ferrous metal processing activities: to consider inclusion under IED (e.g. under activity 2.3) of forging presses, cold rolling and wire drawing (above certain thresholds).

Note the additional sectors listed above comprise a non-exhaustive list and others may be considered.

Questions to all stakeholders

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

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*].

	Emissions to air	*Emissions to water*	*Emissions to soil*	*GHG emissions*	*Energy use*	*Water use*	*Other resources/ materials use*	*Waste generation*	*Other*
Intensive cattle farms									
Intensive mixed livestock farms									
Intensive aquaculture									
Mining/ quarrying industries									
Upstream oil and gas industries									
Battery production									
Battery disposal and recovery									
Downstream ferrous metal processing activities: forging presses, cold rolling and wire drawing	No impact	No impact	No impact	No impact	No impact	No impact	No impact	No impact	No impact
Ship building (other than coating) and dismantling									
Other (as specified in question 1)									

If you have referred to an "Other" environmental pressure, please specify. *[open text response]*
It is not possible to reply positive or negative impact on the environment for the each specific emissions but only positive impacts, not taking into the consideration of the integrated approach and cross-media effect the full effect on all the different emission, energy and water use must be taking into considerations. These aspects are included in the column Others and then all of the columns got reply No impact, as it is needed to do a case by case study for each policy option. For sure, some columns will have both positive and negative effect, different for different sectors, installations, and country. These perspectives are very important to keep in mind when assessing the effects on environment as a whole and is not possible to reflect in our replies in these tables.

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]*

Main studies are the data assessment within the revision of the FMP BREF and the data assessment within the SF BREF. Including these activities in Annex I of the IED will not improve the environment as they are already covered by the two above-mentioned BREFs. The latter is ongoing and has been concluded yet. In comparison with the main BREF for the sector IS these activities are minor.

Questions to industry

4. By extending the scope of the IED to include additional (agro-)industrial activities, operators for these activities would be subject to the requirements of the IED (in broad terms, this is expected to involve the setting of an environmental permit and compliancewith the permit conditions).
Assuming IED permitting is introduced, how would you expect this to affect annual administrative costs for your business?

For each of the following activities in your area of experience, rate the expected change in annual administrative costs i.e. related to permitting, compliance and inspection (relative to existing annual costs).

	>15% increase	*5-15% increase*	*+/-5% little or no impact*	*5-15% decrease*	*>15% decrease*	*Do not know*	*Not applicable*
Intensive cattle farms							
Intensive mixed livestock farms							
Intensive aquaculture							
Mining/ quarrying industries							
Upstream oil and gas industries							
Battery production							
Battery disposal and recovery							
Ship building (otherthan coating) and dismantling							
Downstream ferrous metal processing activities: forging presses, cold rolling and wire drawing	X						
Other (as specified in question 1)							

In relation to the above responses, please elaborate on your answer(s) [*open text response*]

Implementing the IED regulation into the member state, all industrial activities falling within the scope of the IED regulation, have to meet the: regulation and permitting process, compliance and inspection, as well as monitoring (i.e. In accordance to BAT minimum monitoring frequency). As the environmental legislation (IED-directive) is binding to all IED activities, this result in that "new" activities have to meet with the same cost (i.e. environmental permitting) as the current IED activities. The requirement of a baseline report is also additional.

5. **Assuming IED permitting is introduced, to what extent do you think this wouldaffect the following for your sector(s)**:
   i. EU competitiveness,
   ii. EU market share
   iii. Trade with third countries

   For each of the following activities in your area of experience, use the dropdown menu to rate the expected significance of the impact. [Rate as follows: S*ignificant increase; Increase; No impact; Reduction; Significant reduction; Do not know; Not applicable*].

	EU competitiveness	EU market share	Trade with third countries
Intensive cattle farms			
Intensive mixed livestock farms			
Intensive aquaculture			
Mining/ quarrying industries			
Upstream oil and gas industries			

Battery production			
Battery disposal and recovery			
Ship building (other than coating) and dismantling			
Downstream ferrous metal processing activities: forging presses, cold rolling and wire drawing	Reduction	Reduction	Reduction
Other (as specified in question 1)			

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 waste water 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.

Questions to all stakeholders

6. 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*].

	Emissions to air	*Emissions to water*	*Emissions to soil*	*GHG emissions*	*Energy use*	*Water use*	*Other resources/ materials*	*Waste generation*	*Other*
Waste management - biological treatment									
Textiles (pre-treatment, dyeing and finishing)									
Smitheries									
Medium Combustion Plant	No impact	No impact	No impact	No impact	No impact	No impact	No impact	No impact	No impact

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

It is not possible to reply positive or negative impact on the environment for the each specific emissions but only positive impacts, not taking into the consideration of the integrated approach and cross-media effect the full effect on all the different emission, energy and water use must be taking into considerations. These aspects are included in the column Others and then all of the columns got reply No impact, as it is needed to do a case by case study for each policy option. For sure, some columns will have both positive and negative effect, different for different sectors, installations, and country. These perspectives are very important to keep in mind when assessing the effects on environment as a whole and is not possible to reflect in our replies in these tables.

7. 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]*

- Implementation of MCPD for new plants started in 2018 and, for existing plants, is required by 2025 (or even 2030, depending on the plant's size) so it is not yet possible to assess how effective the MCPD has been.
- The MCPD relates to a limited number of parameters (essentially emissions into the air of NOx, SOx and dust) and, as such, including the scope of the MCPD (or part of it) into the IED would create no added value for the environment.
- The purpose of the MCPD is to avoid excessive burden for the operators, in particular SMEs. This would no longer be the case if the scope of the MCP Directive (or part of it) is included into the IED. – as a lot of extra ADM will come (e.g. permit, inspections, baseline report)

Questions to industry

8. By extending the scope of the IED to include (agro-)industrial activities that fall below the current IED production capacity thresholds, these activities would be subject to therequirements of the IED (in broad terms, this is expected to involve the setting of an environmental permit and compliance with the permit conditions).

Assuming **IED permitting is introduced, how would you expect this to affect annual administrative costs to your business?**

For each of the following (agro-)industrial activities below the current IED production capacity thresholds in your area of experience, rate the change in annual administrative costs i.e. related to permitting, compliance and inspection (relative to existing annual costs).

	>15% increase	*5-15% increase*	*+/-5% little or*	*5-15% decrease*	*>15% decrease*	*Do not know*	*Not applicable*
Waste management - biological treatment							
Textiles (pre-treatment, dyeing and finishing)							
Smitheries							
Medium Combustion Plant	X						

9. **Assuming IED permitting is introduced, to what extent do you think this would affect the following**:

   i. EU competitiveness
   ii. EU market share
   iii. Trade with third countries

   For each of the following (agro-)industrial activities below the current IED production capacity thresholds in your area of experience, use the dropdown menu to rate the significance of the impact. [Rate as follows: *Significant increase; Increase; No impact; Reduction; Significant reduction; Do not know; Not applicable*].

	EU competitiveness	EU market share	Trade with third countries
Waste management - biological treatment			
Textiles (pre-treatment, dyeing and finishing)			
Smitheries			
Medium Combustion Plant	Reduction	Reduction	Reduction

16. Landfills above a certain threshold are already included in the IED under Anne activity 5.4. Compliance with the Landfill Directive 1999/31/EC is currently deemed as application of Best Available Techniques (BAT) for landfills, resulting in old requirements that are not updated through the IED's BREF process. (this question is only for MS to reply on in the online survey)

1. **Do you consider that BAT determination of Annex I activity 5.4 landfills should be done by adopting BAT conclusions under the IED? (YES/ NO)?**
2. **If so, should the threshold of Annex I activity 5.4 for inclusion within the scope of the IED be reduced, to what level? (Open response)**
   Landfills are regulated with e.g. permits, monitoring in Land-fill Directive and do not need to be added also to the IED. Our suggestion is instead to delete activity 5.4 from Annex 1 as it's not needed there. BAT for landfill is not really something that is needed to be assessed in Seville and in IED.
3. **What impacts would you expect of an amendment to move the definition of BAT for landfills from the Landfill Directive to the IED?**
   No impact, innovations and emerging techniques is not very common, and its better placed in LD then in IED.

Environmental impacts, including emission of air pollutants to air, soil and water as well as emission of GHGs	No impact]

Economic impacts	Increase
Administrative costs	increase

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

(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:
    - IED Article 15(1) flexibilities (when setting permit conditions for indirect releases of polluting substances to water).
    - IED Article 15(3) flexibilities (when setting different ELVs in permit conditions in terms of values, periods of time and reference conditions).
    - 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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- 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

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

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- 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.

Questions to all stakeholders

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*]

	Emissions to air	*Emissions to water*	*Emissions to soil*	*GHG emissions*	*Energy use*	*Water use*	*Other*	*Waste generatio*	*Other*
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	*No impact*	*No impact*	*No impact*	*No impact*	*No impact*	*No impact*	*No impact*	*No impact*	No impact
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.	*No impact*	*No impact*	*No impact*	*No impact*	*No impact*	*No impact*	*No impact*	*No impact*	No impact

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.	*No impact*	*No impact*	*No impact*	*No impact*	*No impact*	*No impact*	*No impact*	*No impact*	No impact
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.	*No impact*	*No impact*	*No impact*	*No impact*	*No impact*	*No impact*	*No impact*	*No impact*	No impact
Prohibit the indirect release of polluting substances to water	*No impact*	*No impact*	*No impact*	*No impact*	*No impact*	*No impact*	*No impact*	*No impact*	No impact
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]).	*No impact*	*No impact*	*No impact*	*No impact*	*No impact*	*No impact*	*No impact*	*No impact*	No impact
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	*No impact*	*No impact*	*No impact*	*No impact*	*No impact*	*No impact*	*No impact*	*No impact*	No impact

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

It is not possible to reply positive or negative impact on the environment for the each specific emissions but only positive impacts, not taking into the consideration of the integrated approach and cross-media effect the full effect on all the different emission, energy and water use must be taking into considerations. These aspects are included in the column Others and then all of the columns got reply No impact, as it is needed to do a case by case study for each policy option. For sure, some columns will have both positive and negative effect, different for different sectors, installations, and country. These perspectives are very important to keep in mind when assessing the effects on environment as a whole and is not possible to reflect in our replies in these tables.

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*]

If time limit derogation will be included, the time should be until next revision of BATC is done. We are not supportive of introducing a specific time limit. Introduction such a time limit should be avoided since applying with a BAT-AEL (if not doing so) has to be evaluated **on a case by case basis**. Depending on; production process, plant layout, and BAT-AEL to meet, major plant reconfigurations (or rebuild) may have to be implemented. Project implementation can take years to implement. It is problematic to set a

proper regulating time limit accounting for all different situations, and project implementation procedures that may occur. Also, the location of the plant (country and where in the country) is needed to be taking into consideration.

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

The best way forward is to make use of the existing mechanisms of the IED. The amendments proposed cannot be supported, considering the BAT and BAT-AEL concepts and considering an integrated approach for the environment taken as a whole, including cross-media effects.

Questions to industry

24. **Please rate the economic impacts of the following options on setting permit conditions?** [*>15% increase; 5-15% increase; little or no impact (+/-5%); 5-15% decrease; >15% decrease; Do not know; Not applicable*]

	Administrative costs	*Operational costs*	*Capital costs*	*EU competitiveness*	*EU market share*	*Trade with third countries*
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	>15% increase	>15% increase	>15% increase	*>15% decrease*	*>15% decrease*	*>15% decrease*
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.	>15% increase	> 15 % increase	>15% increase	*>15% decrease*	*>15% decrease*	*>15% decrease*
Develop a standardised mandatory methodology to	Little	Little	little	*Little*	*little*	*little*
Assess the disproportionality between costs of implementation and environmental benefits with reference to Article 15(4) of the IED.						

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.	>15 %	>15% increase	>15% increase	*Little*	*Little*	*Little*
Prohibit the indirect release of polluting substances to water	>15% increase	>15% increase	>15% increase	*>15% decrease*	*>15% decrease*	*>15% decrease*
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]).	>15% increase	>15% increase	>15% increase	little or no impact (+/-5%)	little or no impact (+/-5%)	little or no impact (+/-5%)
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	>15% increase	>15% increase	>15% increase	*>15% decrease*	*>15% decrease*	*>15% decrease*

If you wish, please provide additional information on your response. *[open text response]*

The economic impacts of the listed options (e.g. setting up by default of ELVs based on the lower-end of the BAT-AEL range goes beyond BAT and limit the possibility to derogate) are very relevant for the EU steel industry. These proposals could hamper the competitiveness and trade with third countries and could discourage investments and promote activities beyond the borders of the European Union.

The industry wants to transform to fulfil Green Deal ambitions but during this period and at the same time it is needed to stay competitive. If EU-wide BATAEL are set for emissions and also for performance levels on energy, water, material (suggested in questions later), and if permits only are given if a plant full fills the lower level in all these BATAELs this will for sure decrease the installations in Europe as these are large complex installations with long investments cycles and time needed to make the transformation in a pace that if affordable.

One example it's the option of **Setting the lower-end of the BAT-AEL ranges as ELVs by default**: BAT-AEL ranges reflect the evidence-based deliberations of the EIPPCB Technical Working Groups (TWGs). During the data collection, a choice of well-performing installations is made. From this selection, BAT-AEL ranges are derived and the lower-end is representative of what the best performers are able to achieve. Setting Emission limits values (ELVs) based on lower-end of BAT-AEL ranges by default would only apply to these installations, which by no means represent the variety of conditions in which they operate in the EU. Industrial installations implement different techniques that can achieve different environmental performances and not all of them are always applicable, for instance due to the design of the plant, the desired product quality or the local conditions. BAT-AELs are expressed as ranges to reflect such differences, the whole range is reflecting the state of the art for applying BAT and BATs are selected to ensure the best protection of the environment as a whole, in line with the integrated approach.

Keeping one end of the BAT-AEL ranges would also deny the geographical and historical background of Member States. As such, convergence between Member States may not be achievable everywhere in full or at the same pace. Finally, environmental pressures at local level are not always linked to industrial activities and policy/legal instruments other than the IED may be more adapted to address them.

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.

Questions to all stakeholders

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 **no impact**
Monitoring emissions to soil **No impact**
Implementation of BAT Conclusions in permits **no impact**

Development of baseline reports **Slight**
Stringency of requirements upon definitive cessation of activities **no impact**
Identification of waste (co-) incineration activities that require permitting **Not applicable**

Questions to industry

29. **Do you use existing guidance to develop your baseline report?** [*Yes; No*]. If yes, please specify which guidance, and please give a reference to it. [*open text response*]

When IS was decided and implemented, the Guidance from COM was not yet finalized but the draft was used. Baseline report has been developed and given to the competent authority. The baseline report has been constructed according to the guidance developed by the Swedish Environmental Protection Agency.

1.1.4 Varied interpretation of enforcement and insufficient guidance

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.

Questions to all stakeholders

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 **No impact**
Introduce common compliance assessment rules with emission limit values under Chapter II of the IED **No impact**
Implement support services for IED implementation to oversee compliance control and enforcement by the competent authorities and provide EU peer review and/or inspection **No impact**
Elaborate Article 79 on penalties applicable to infringements of the provisions on the IED **No impact**

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

Questions to industry

35. **To what extent would introduction of common rules for ELVs compliance assessment under Chapter II of the IED contribute to a level playing field in terms of inspection and enforcement of environmental permits for your sector across the EU Member States**? [*Significant improvement; Moderate; Slight; No impact; Do not know; Not applicable*]

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

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.

Questions to all stakeholders

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 textresponse*]

Real time monitoring for measuring emissions is well implemented by operators, depending on the relevance of the KEI and permit requirements in alignment to BAT conclusions on monitoring and considering existing local/national regulations. This data, where existing, is normally used to manage the environment performance and the processes at stake and to evaluate the compliance assessment. In many cases this information is already shared with competent authorities, but not in real-time.

Real time monitoring (continuous measurement) is used at some emission points for the IED installations in Sweden. These emission points are either regulated according to IED directive, or BAT-conclusions (i.e. LCP-plants, EAF-furnaces, Blast Furnaces). Data from the monitoring system is collected to the IT-system managed by the operator. The operator shares the result to the competent authority at times when checking compliance with permit conditions (occasions of sharing is decided in collaboration with the competent authority). Result from the measurement is used to control compliance with permit conditions.

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

Real time monitoring systems **No impact**
Extend the scope of monitoring/ reporting concerning Article 15(4) derogations **No impact**

Questions to industry

40. **To what extent would the use of real time monitoring affect operational costs and capital costs relative to current monitoring costs?** *[>15% increase; 5-15% increase; little or no impact (+/-5%); 5-15% decrease; >15% decrease; Do not know;Not applicable*]

	Operational costs	Capital costs
Real time monitoring systems	**>15% increase**	**>15% increase**

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

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.

Questions to all stakeholders

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

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.

Questions to all stakeholders

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

Operators to establish a chemical management system **No impact**
Systematic inclusion in BREFs and in BAT-conclusions of information on chemicals of concern used in the sector and the availability of safer chemicals **No impact**

47. **To what extent do you think that addressing chemicals of concern in BAT- conclusions, 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 andREACH, particularly for SVHCs?** [*Yes; No*] If yes, please specify. [*open text response*]
The introduction of further chemical-related measures in the IED will only contribute to duplication of efforts and bring confusion among operators. Hazardous substances are already covered, commensurate to their degree of relevance for the various sectors. Operators are already bound by obligations under REACH and ECHA and the IPPCB are ensuring that these obligations are well reflected in sectoral BREFs via increasing cooperation. Where Substances of Very High Concern (SVHCs), despite their hazardous character, are instrumental to achieve BAT requirements for key environmental issues, the IED should recognize this valuable role in the relevant BREF documents to support the choice of an adequate risk management option. In our replies we conclude we already have enough regulation via REACH and there is no need for CMS as is already controlled and the cost will not change much in that case. But while operators in the steel sector already maintain chemical management systems, more extensive requirements in the IED may significantly increase their costs and decrease their competitiveness accordingly.

Questions to industry

49. **Do you already make use of a chemical management system (CMS) to help maintain compliance against one or several pieces of environmental / chemical legislation?** [*Yes; No*]. If yes

    a. Does your CMS cover simple audit aspects (i.e. supplier details, quantities, prices etc)? *[Yes; No]*.
    b. Does your CMS include data on chemical hazards and risks? *[Yes; No].*
    c. Do you use the CMS for tracking development in regulatory evolution to identify additions to the SVHC list? [Yes; No].
    d. Via your CMS, do you make reports annually to the permitting Competent Authority (CA)? *[Yes; No; optional further comment, [open text response]]*
    e. Do you utilise digitally accessible reporting of the CMS updates to the CA? *[Yes; No; optional further comment, [open text response]]*

    Data is collected and compiled manually before anything is sent to the CA

50. **Does your organisation already make use of the ECHA risk assessment tools as part of your HSE activities?** [*Yes; No*]

51. **To what extent do you expect the obligation for operators to establish a chemical management system to impact on operational costs and/ or capital costs relative to current costs?** *[>15% increase; 5-15% increase; little or no impact(+/-5%); 5-15% decrease; >15% decrease; Do not know; Not applicable*]

	Operational costs	Capital costs

Operators to establish a chemical management system		

52. **To what extent would the obligation for operators to establish a chemical management system impact on the following?** [*Significant increase; Increase; Noimpact; Reduction; Significant reduction; Do not know; Not applicable*]

	EU competitiveness	EU market share	EU trade with third countries	Employment	Consumer prices
Operators to establish a chemical management system	No impact	No impact	No impact	No impact	No impact

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.

Questions to all stakeholders

55. **What impact do you think including GHG in the BREF process as a mandatorykey 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*]

	Impact regarding IED installations NOT covered by the ETS
Set GHG ELVs and energy efficiency requirements in permit conditions (in accordance with BAT-AEL and/or BAT-AEPLs adopted by BAT Conclusions).	No impact
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	No impact

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*]

	Impact regarding IED installations covered by the ETS
Set GHG ELVs and energy efficiency requirements in permit conditions (in accordance with BAT-AEL and/or BAT-AEPLs adopted by BAT Conclusions). This includes deletion of IED Art. 9	No impact
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	No impact

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*]

Operators covered (or not covered) by the IED directive emits GHG, either directly by the combustion of fuels and use of raw material containing carbon (i.e. raw material coke and coal used as reducing agents in blast furnaces), or indirectly by the use fossil fuel. The possibility for operators to reduce their emission of GHG depend on the supply of non-fossil energy in the MS, and also steady supply of electricity produced from non-fossil fuels. Implementation of some of these measures critical for many of the decarbonisation strategies, is to some extent not in the of the control of the operators of IED installations. The supply of fossil free electricity is a key factor to reduce the emission of GHG. GHG reduction will also entail much higher electricity demand across the industry since it enables decarbonisation of many of our specific industrial processes.

In parallel, "energy efficiency", while remaining part of every company's strategy that consists in investing in less energy-intensive processes, reducing indirect GHG emissions cannot be seen as the silver bullet. Especially as energy efficiency is defined in FMP bref as consumption of energy in a process for a certain steel product. Binding associated environmental performance level (from BATAEPL to BATAEL) and EU wide ELVs for energy consumption in the permit is not an efficient tool to reduce the emission of GHG in total. Also, if regulating the amount of energy used in a process for a product, e.g. FMP, will significantly harm the development of high strength steels. These types of steel are stronger, thinner, last

longer and gives e.g. lighter weight in a car, which reduce fuel consumption and therefore as well GHG.

EU Green Deal "is a new growth strategy that aims to transform the EU into a fair and prosperous society, with a modern, resource-efficient and competitive economy where there are no net emissions of greenhouse gases in 2050 and where economic growth is decoupled from resource use." The EU Green Deal does not condition the delivery of an IED permit to the achievement of an individual installation goal by a certain date. Many parameters will play a key role in the decision of a company to invest in low carbon technologies such as marginal abatement costs, the length of investment cycles, exposure to global competition and its role in delivering emission reductions along value-chains, which cannot be addressed through a licensing process. In the recent study performed by Wood [reference] concludes, "there are significant uncertainties in terms of direct and indirect environmental impacts, often related to the maturity of the decarbonization technologies".

The IED article 21 "Reconsideration and updating of permit conditions by the competent authority" already trigger periodically permit review, in particular where new BAT conclusions are published. The capacity of an IED installation to operate in accordance with EU Green Deal objectives shall not condition the delivery of the permit, as many low carbon pathways are still under development at the time of the permit review. There must be a legal certainty for the installation about the permits given "legally secure permit conditions". If a BREF review is finalized and new BATC are decided an implemented, this permit must be valid and not challenged by a parallel process suggested in the second option.

Questions to industry

59. **To what extent would compliance with additional permit conditions relating to GHG ELVs and energy efficiency standards impact on the following, for plants <u>NOT</u> covered by the ETS?** Use the dropdown menu to rate the extent of the impact. [Rate as follows: *Significant decrease; Moderate; Slight; No impact; Donot know; Not applicable*]

	EU competitiveness	EU market share	EU trade with third countries	Employment	Consumer prices
Set GHG ELVs and energy efficiency requirements in permit conditions (in accordance with BAT-AEL adopted by BAT Conclusions) This includes deletion of IED Art. 9(1)	Significant decrease	Significant decrease	Significant decrease	Significant decrease	Do not know
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	Significant decrease	Significant decrease	Significant decrease	Significant decrease	Do not know

60. **To what extent would compliance with additional permit conditions relating to GHG ELVs and energy efficiency standards impact on the following, for plants covered by the ETS?** Use the dropdown menu to rate the extent of the impact. [Rate as follows: *Significant decrease; Moderate; Slight; No impact; Do notknow; Not applicable*]

	EU competitiveness	EU market share	EU trade with third countries	Employment	Consumer prices

Set GHG ELVs and energy efficiency requirements in permit conditions (in accordance with BAT-AEL adopted by BAT Conclusions)	Significant decrease	Significant decrease	Significant decrease	Significant decrease	Do not know
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	Significant decrease	Significant decrease	Significant decrease	Significant decrease	Do not know

61. **To what extent do investments provide co-benefits, regarding decarbonisation and improvements to wider environmental pollution impacts?** *[Significant co-benefits; Moderate; Slight; No impact; Do not know; Not applicable]*

There is no Open text box here in online survey but a comment on this reply is given below.
The co-benefits could depend on the pathway and this depends on the local assessment and conditions, As commented above, the recent Woodplc study (03/03/2021) concludes that there are significant uncertainties in terms of direct and indirect environmental impacts, often related to the low maturity of the decarbonisation technologies (small scale or pilot projects).

3 Problem 3: Natural resources are being depleted

3.1 Clarify the binding nature of resource efficiency BAT-AEPLs

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 BAT- AELs for new permits and permit reviews
- Allow CBI issues to be surmounted when setting BAT-AEPLs via legislative means and/ or procedural means

Questions to all stakeholders

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

Example in MS SE for I&S industry. In SE we have implemented BATC as general binding rules, and in addition to that we have SE permit for the whole installation set in court. For landfill certain conditions has been implemented regulating the construction of the landfill, and possibilities to future use of landfilled material. One example of permit condition is expressed in the following way.

"Deposit of waste shall be carried out in a way that ensures the possibility for future extraction of material, for reuse, or recycling. Waste products originating from the processes and currently recycled by the operator shall be reused to an extent it is technically and economically viable"

Another type of permit condition is that waste products such as filter dust should be recycled within the production process to the extent possible. "Filter dust of stainless-steel originating from the steel shop, and other dust containing metals shall be processed."

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) **No impact**
On water efficiency (specific water consumption, specific wastewater generation) **No impact**
On material efficiency (specific materials consumption, specific waste generation) **No impact**

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

The main reason is that it is not a part of IED, as Article 15.3 is only regulating ELV where BATAELs serves as a basis for setting permits. The reasons for this are many and must be kept as it are also in the revised legislations.

For all IED installations carrying out manufacturing of products, consumption (input) of sufficient energy is a key factor when producing a final product and at the same time fulfilling consumer requirements. The use of sufficient energy is a prerequisite in all manufacturing processes. However, more important, the absence of conditions in environmental permits regulating the quantified energy consumption per produced product (i.e. a binding BAT-AEPL) is also a prerequisite for future continuous product development. If environmental permits (or BAT-conclusions) would contain binding conditions regulating the use of energy, water, or material, this would constrain the development of new products. An illustration of this circumstance (constraining development of new products), is given in the ferrous metals processing, e.g. steel products. Today, there is an increased demand of steel products that are thinner, and lighter, but at the same time contains product qualities such as hardness, and ductility. Automotive industry is one of many customers demanding these product qualities. Thinner steel in the car body (or tipper body in a truck) will reduce the weight of the automotive, and in turn reduce the fuel consumption. At the same time improved product qualities as ductility and hardness will result in vehicle with a higher safety standard. Although, in the production of more advanced steels there is a need for increased energy consumption and water consumption. Advanced high strength steels need to be heated at higher temperature, and/or heated multiple times, sometimes in combination with rapid water cooling. These process steps require increased consumption of energy and water. Even though more advanced products (i.e. for steel) requires increased input of energy in the production, the outcome is a final product that will reduce the environmental impact in its life cycle (i.e. by reduced fuel consumption). As such, the absence of binding consumption conditions, in BAT-conclusions and in environmental permits, needs to remain if future product development and new innovations should continue to exist.

If BAT-conclusions or environmental permits would contain binding quantified consumption levels (i.e. binding BAT-AEPLs) when producing a product, this will in turn restrict the future development of new products. Binding regulation for BAT-AEPLs (as is the case for BAT-AEL) would impose significant harm to the competitiveness of the industry within the European Union.

One additional problem with binding consumption levels (energy, water, and input material) is that it might have a negative impact on the environment overall in situation when implementing BAT-techniques or other techniques that ensure at least an equivalent level of environmental protection. If imposing binding BAT-AEPLs there will be an upper level that operators must comply. As such, in situations where existing equipment is to be replaced (i.e. installing a new bag filter with increased capacity to reduce emissions), or additional equipment is to be installed (i.e. a water treatment installation, pumps etc.), such new installations need to meet with the binding BAT-AEPLs. The current legal status of techniques listed and described in the BAT conclusions is that they are neither prescriptive

nor exhaustive. Other techniques may be used that ensure at least an equivalent level of environmental protection. This legal status is very important for the future development of new techniques used for environmental protection. In case BAT-AEPLs would be binding the future possibility will be reduced to use and develop other techniques that ensure at least an equivalent level of environmental protection.

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*]

B. If you answered "NO", what changes do you think are needed in the legislation to allow the effective setting of ambitious and binding AEPLs regarding resource efficiency? [*open text response*]

67. **A. Once the CBI is collected, are there barriers to its use in order to allow theeffective setting of ambitious and binding AEPLs on resource efficiency/ Circular Economy requirements?** [*Yes; No* - **B. If you answered "YES" to the above, what are these barriers?** [*open textresponse*]

There is no barriers, see also reply on 67 c.

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

CBI is not a barrier to set BAT-AEPLs, but there should not be any ELV of these in the permits. As described in question 65, two barriers are that binding BAT-AEPLs would restrict product development in the manufacturing industry, as well as impairing the development of other techniques that ensure at least an equivalent level of environmental protection as techniques described in the BAT-conclusions. However, except for the two barriers mentioned above, there is also one other barrier that is very important from a legal aspect. This barrier is the construction of "legally secure permit conditions".

In the environmental legislation emission limit values have been used for a long time, either in national legislation (environmental permits), or in EU legislation (BAT-conclusions and BAT-AELs). The emission limit values can be expressed in, i.e. "mg/l" for pollutants released to water, and i.e. "mg/Nm^3" for pollutants released to air. An important factor is that the when emission limit values are constructed, they are defined for a specific process and emission point securing "exactly" what to be controlled (i.e. waste gas flow from a combustion process). Another important factor is that the legally binding emission values (BAT-AELs) is based on data collected by a standard reference method (EN-ISO). The result by using this approach is a binding limit value including a clear definition what is included (specific process), and a clear definition on how the binding limit value shall be controlled (EN-ISO).

When controlling consumption of energy, water, and material it does not exist any standardized method used for the control. Several questions arise. Should flow meters or invoices be used when collecting data? And, how should calorific value be measured in energy sources used? Neither does the current BAT-AEPLs contain an "exact" definition on which processes or equipment that are included in the BAT-AEPLs. As an example, in the BAT-AEPL decided at the FMP Final Meeting (February 2021) energy consumption was expressed as, "*total amount of heat (generated from primary energy sources) and electricity consumed by the relevant process(es), expressed in MJ/year or kWh/year*". In this case the wording "*relevant process(es)*" lacks the clear definition needed for the operator and competent authority to know what is included but it also illustrates the need to continue these EPLs as information and not limit values. The BAT-conclusions adopted by the European Commission, and the associated **indicative** BAT-AEPLs are a useful tool for operators and competent authority to use when evaluating the energy consumption within an installation.

The IED and other related legislation sufficiently allow collection of data on resource efficiency while protecting CBI. The guidance set the rules which off course needs to be respected during the full BREF-review. Indeed, there has been significant progress in the collection, assessment and derivation of BAT-AEPLs under the IED. In the FMP BREF review, thanks to the good cooperation and trust established within the TWG – and acknowledged by the European

Commission, it was possible to assess contextual information leading to the setting of BAT-AEPLs on water and energy consumption during a physical workshop (December 2019) and under strict conditions (no distribution of figures with CBI; no pictures allowed; plants to be shown anonymized).

However, the COVID-19 pandemic showed the limitations of assessing such data during web-based meetings, where some of the above-mentioned conditions could not be fulfilled. During the exchange of information, EUROFER proposed solutions to enable the participation of all TWG members in a web-based meeting while protecting the confidentiality of the data and not breaking the rules of competition rules, as well as being sure about who is viewing the data during the meeting. Even if this second assessment on detailed contextual information took part, still the assessments of diagrams and data was possible as the installations was more the five for each product group and anonymized.

Questions to industry

68. **To what extent would compliance with binding BAT-AEPLs have an overall impact on the following, in the medium-term (after c. 5 years)?** [*Significant increase; Increase; No impact; Reduction; Significant reduction; Do not know*]

Employment **Significant Reduction**
Consumer prices **Significant increase**
EU competitiveness **Significant reduction**
EU market share **Significant reduction**
Trade with third countries **Significant reduction**

3.2 Further elaborate obligations relating to resource efficiency and circular economy

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 consider 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, organizing 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'.

Questions to all stakeholders

70. **Do you think that monitoring/ reporting of operator's identified measures andchoices 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

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

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

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*]

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*]

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*]

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

IED regulates an installation and should not include up- or downstream environmental impacts as it is not in the hand of the installation. Value chain cannot be regulated in BREFs. As a BREF is most of the time for a sector or even for a part of the sector (e.g. IS and FMP).

The sound management of resources within the boundaries of the installation is already part of the basic obligations of the operator as per Article 11 of the IED and should remain qualitative, process- and technique-based. Indeed, the choice of sources upstream is out of his control: availability and prices of renewable energy, secondary raw materials, etc. depend on factors that the installation cannot steer or master completely. The control that an operator can have downstream is, again, not under his full control due to market conditions (e.g. competition between secondary raw materials vs primary raw materials, legal framework drastically limiting market access). It should not be the role of the IED to push, e.g., secondary against primary materials. In the specific case of steel, there is no need to push for increased demand for scrap.

Questions to industry

73. **To what extent would establishing an operator Resource Efficiency and Circular Economy plan for each plant impact on annual administrative costs, relative to existing annual costs?** *[>15% increase; 5-15% increase; little or no impact (+/-5%); 5-15% decrease; >15% decrease; Do not know; Not applicable*]

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 waste[1], 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.

Questions to all stakeholders

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

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

Questions to industry

77.

a. **Are you aware of national initiatives that support industrial symbiosis for your sector? [*Yes; No*]. If yes:**
b. **Do they refer to your sector's feedstock(s)? [*Yes; No*]**
c. Do they refer to your sector's wastes or by-products? [*Yes; No*]
d. Please provide a reference and URL for the national initiatives.
e.

78. **What initiatives is your sector pursuing to promote industrial symbiosis at national or regional level, and are these initiatives confined to your sector, ordo you recover resources from other sectors?**

The definition of Industrial Symbioses is a strange one in this TSS, only accepting by-product to be used in another sector and not waste. Waste is often relevant as such and, therefore, the IED/BREFs should not limit the production and use of certain materials according to their legal status (i.e. waste versus residue/by-product), but to promote an increased level playing field between primary and secondary raw materials.

We fully support the concept of industrial symbiosis, which has been implemented by the steel industry since many decades via the use of waste as input material and the supply of waste, by-products or end-of-waste materials to other sectors. Recycling of waste and reuse of by-products is at the core of symbiosis links. The IED could enable a concrete and effective promotion of industrial symbiosis by facilitating the exchange of and granting market access to industrial residues, whatever their legal status (waste, by-products or end-of-waste), thereby increasing the level playing field between primary and secondary materials.

Jernkontoret's technical area 55, *Steel production residues* is where companies and institutes interested in research into residual products collaborate. Among other things we have done is a Guidance about our residues in our sector and where these can be use in other sectors. It is only available in Swedish and the link to the latest one (we have done three) is here:
https://www.jernkontoret.se/globalassets/publicerat/handbocker/handbok-for-restprodukter-2018.pdf

3.4 Depletion of natural resources – general

Questions to all stakeholders

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

	Water use efficiency & water reuse	*Choice of primary/ secondary feedstock and fuels*	*Waste reduction and recycling*	*Energy use*	*Improved environmental performance over the supply chain*	*Other – please specify*
Mandatory BAT-AEPLs and proper management of CBI issues	low	low	low	low	low	low
Reinforced mandatory resource efficiency reporting requirements in EMS	low	low	low	low	low	low
Inclusion in BREFs of critical, sector-specific information to support setting of End-of-Waste criteria	low	low	low	low	low	low
Promotion of industrial symbiosis by Member States/ regions/ intra-sector and inter-sector local systems	low	low	low	low	low	low

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

These questions do not have any flexibility in the options to be chosen and the suggestions are all assumed to have an untapped potential. It seems also as the integrated approach and cross-media effects are lost, but it is important to have "the full picture" when assessing different options. These aspects are included in the column Others and then all columns got the reply low even if we don't agree to there is an low untapped potential at all. The assessment is needed to do a case by case study for each policy option. For sure, some columns will have both positive and negative effect, different for different sectors, installations, and country. These perspectives are very important to keep in mind when assessing the effects on environment as a whole and this is not possible to reflect in our replies in these tables.

Make the binding nature of resource efficiency BAT-AEPLs explicit in the same way as BAT-AELs for new permits and permit reviews is not acceptable. We are strongly against introducing mandatory BATAEPL – in detail explained in section 2 of this TSS for energy (e.g. question 65). It cannot be up to regulator to decide which material (secondary or primary feedstock) should be used in which process and installation, how much water and energy to be used. IED and BATC are based on BAT but the techniques are neither prescriptive nor exhaustive. This principle is needed to respect also for input materials. For Swedish steel industry such a restriction set in BATC will for sure limit the possibility to produce high strength steal or advanced steel, and will harm the development and innovation of new, even more excellent/innovative steel products in the future, more sustainable in use-phase.

To set binding limit values in a permit for which type (and how much) of input material to be used is not at all acceptable. For the steel production the installation is either a primary route or a

secondary one. It must be up to the permit holder to decide depending on the installation's configurations. For steel industry there is no need to regulate an increased amount of recycled (scrap) content in products, as the scrap market is already working since many years and all collected scrap is recycled. If the permit includes a requirement of a certain amount of scrap in a product, this must be based on which type of process route the installation have. If mandatory requirement is introduced in general terms, this means that Hybrit, the fossil-free steel production, will not get a permit as it's based on the primary route. For steel, there is not enough scrap to fulfil the demand and primary route is needed in parallel to secondary. IED is about processes and emissions from them and it should not include product legislation. The same type question is also discussed in Sustainable Product Initiative. We do not want this type of requirement (increase recycled content in a product) there either as it is not suitable for steel (and scrap) but this discussion should take part in Product legislation and not in a process legislation.

We support the definition of End-of-Waste (EoW) criteria at EU level as an effective and simple measure for removing legal bottlenecks for granting market access to secondary raw materials. However this process should be streamlined within the EU waste legislation, which is currently a red tape toll rather than an enabler for the EU industry. Linking the IED with EU waste legislation would therefore not only add an unnecessary layer of complexity, it would simply not be possible due to the continuous adjustment of sourced materials to keep economic viability and pollution prevention and control effective (integrated approach).

IED is for AN INSTALLATION, and a BREF is for A sector (or even a part of a sector). To start to regulate in on BREF what other sectors should use or not for their processes is not possible. With this approach everyone needs to participate to all BREF, which will not increase efficiency of neither BREF-processes nor in IED.

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.

Questions to all stakeholders

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) **No impact**
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)). **Moderate**
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). **moderate**
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. **No impact**

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 **slight**
More participation of technology developers to get their views (and evidence) on emerging and breakthrough techniques **slight**
Qualifying emerging and breakthrough techniques as candidate BAT faster or more frequently (in between two BREF reviews) **no impact**
Generating information on the expected future environmental performance of identified emerging and breakthrough techniques **no impact**
Generating information on expected capital costs and running costs of identified emerging and breakthrough techniques **slight**
Facilitating the deep transformation of industry to more promptly apply emerging and breakthrough techniques **No impact**

83. Which stakeholders should sit in the Innovation Observatory?

European Commission **YES**
Industrial operators **YES**
Environmental NGOs **YES**
Member State representatives / competent authorities **YES**
Civil NGOs **YES**
Think tanks **YES**
Applied RTD institute **YES**
Technology developers and providers **YES**
European Environment Agency **YES**
European Institute of Innovation & Technology **(**EIT**) YES**
Other, please specify

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?** [S*ignificant increase; Increase; No impact; Reduction; Significant reduction; Do not know*] Where significant, please provide more detail [*open text response*]

IED and BATC are based on BAT but the techniques are neither prescriptive nor exhaustive. This principle is needed to respect also for de-carb techniques. If the accelerated uptake of innovative techniques through improvements of the IED means binding request on which technique to be used in an installation that can seriously hamper the aspects below. ET are not BATs (i.e. techniques developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions) and cannot be commercially implemented. An ET can be considered a BAT candidate when implemented at industrial scale and subsequently described following the 10-heading structure referred to in the BREF guidance. The setting of performance levels associated with the ETs is not an acceptable option due to their low level of maturity (as acknowledged by Wood study on the wider environmental impacts of industry decarb (March 2021) and would create further complexity, uncertainty – integrated performance levels need being set at TRL 9 being BAT – and confusion to the IED.

The introduction of shorter BREF review cycles focusing on ETs would have a number of detrimental effects. It would not only disrupt investment cycles, which are long and well-planned, but also ignore the technical limitations of an ET as well as the safety and environmental risks that it entails and that are only fully grasped during its implementation phase. The accelerated uptake of innovative techniques could therefore have negative knock-on effects on the overall market position of industry within and outside the EU resulting in significantly reduced competitiveness, market share, trade with third countries, employment. Furthermore, it will significantly reduce innovation since it will hamper the further development of the innovative technologies to become BAT.

EU competitiveness **significant reduction**
EU market share **significant reduction**
Trade with third countries **significant reduction**
Employment **significant reduction**
Consumer prices **increase**
Innovation **significant reduction**.
Reduced environmental impacts via advance investment cycle planning of new/ revised installations, processes and equipment **no impact**

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?** [S*ignificant 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.

Questions to all stakeholders

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	
Article 15(4) derogation	
Site visit reports	
Emissions monitoring data	

Questions to industry

88. **To what extent would setting up a permit summary to accompany permit documentations using a standard template have an impact on annual administrative costs relative to existing annual costs?** *[>15% increase; 5-15% increase; little impact (+/-5%); 5-15% decrease; >15% decrease; No impact; Do not know; Not applicable*]

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.

Questions to all stakeholders

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; Notavailable; Restricted availability to registered users; Available for fee; Unable to respond*]

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*]

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.

Questions to all stakeholders

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 **Slight**
To comply with BAT Conclusions **Moderate**
To reflect developments in BAT (where no BAT Conclusions have been adopted) **slight**
To address significant pollution despite existing ELVs **slight**
To ensure operational safety **slight**
To comply with environmental quality standards **slight**

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

Increased participation of the public can be expected from increased online availability of environmental information on the installations. However, whilst allowing the permitting authorities to make informed decisions, the participation of the public to further permitting procedures should not jeopardise the viability of the installation by disrupting its operations

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.

Questions to all stakeholders

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

Questions to all stakeholders

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'	
Clarification of the definition of 'co-incineration'	
Clarification of the definition of 'normal operating conditions' for LCPs and (co)-incinerators	
Streamlining the provision of the various chapters of the IED regarding gasification and pyrolysis plants	
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	

Please justify *[open text response]*

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	Administrative Costs	Environmental Impacts (Elaborate below)
Clarification of the definitions of 'combustion installation' and 'combustion plant'		
Clarification of the definition of 'co-incineration'		
Clarification of the definition of 'normal operating conditions' for LCPs and (co)-incinerators		
Streamlining the provision of the various chapters of the IED		
regarding gasification and pyrolysis plants		

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		

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

6.2 IED overlap with Directive 94/63/EC

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.

Questions to all stakeholders

102. **To what extent is there overlap between the IED and Directive 94/63/EC?** [S*ignificant 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?** [S*ignificantly 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.

Questions to all stakeholders

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*]
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.

Questions to all stakeholders

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*]
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 above-mentioned chemical industry plants in the absence of regulation by the IED?** [*table to complete below*]

	Significant (more than 15%)	*Moderate (between 5-15%)*	*Slight (less than 5%)*	*No impact*	*Do not know*	*Not applicable*
Emissions to air						
Emissions to water						
Emissions to soil						
GHG emissions						

Energy use						
Water use						
Other resources / materials use						
Waste generation						
Other (specify)						

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*]

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*]

The disclaimer at the first page will be included and the short version of Key messages from Eurofer. The long version of Key message will be added in the on-line reply, sent in a stand-alone document, attached to this file im mail but also to found be found at JK webpage from 2021-04-06.

https://www.jernkontoret.se/sv/publicerat/nytt-fran-jernkontoret/remissvar/2021/med-for-manga-nya-palagor-riskeras-effektiviteten-i-ett-av-eus-viktigaste-direktiv/

Short Key Messages

To keep a competitive and transformative steel industry in EU some flexibility must remain in the future permits (e.g. intervals and derogation). Increased time periods to facilitate development and testing of emerging techniques (ET) are welcomed in existing installations.

Respect the existing full definition of BAT. Don’t introduce binding limits for emissions for emerging techniques (ET-AEL) in the test phase as this risk harming innovations and the development of transforming the industry.

The non-binding performance levels (BAT-AEPL) need to remain to foster resource efficiency and circular economy. Setting legally binding rules for specific energy consumption (energy efficiency) will be counterproductive not only for more resource efficient, advance, specialized steel but also for the integrated approach (material, chemicals, water).

Avoid excessive burdens that affect the efficiency of policy instruments, e.g. ETS (keep IED Article 9.1 for the ETS-sector), REACH (Chemicals strategy says one substance, one assessment), Landfill directive and MPCD.

Continue to develop Seville process. Setting of legally binding BAT-AELs needs continue following the BREF Guidance, based on the data collection exercise, knowledge of the conditions in different sectors and verified by the Member States.

Remain subject matter and scope – to keep IED continuous efficient. Include only what is EU-wide issues (e.g. Annex 1 and 2) and respect the integrated approach for the environment taken as a whole (cross-media effect).

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Eva Blixt, +46 70 6791795