

Industrial Emissions Directive (IED) Targeted Stakeholder Survey

A Eurelectric response paper

Eurelectric represents the interests of the electricity industry in Europe. Our work covers all major issues affecting our sector. Our members represent the electricity industry in over 30 European countries.

We cover the entire industry from electricity generation and markets to distribution networks and customer issues. We also have affiliates active on several other continents and business associates from a wide variety of sectors with a direct interest in the electricity industry.

We stand for

The vision of the European power sector is to enable and sustain:

- A vibrant competitive European economy, reliably powered by clean, carbon-neutral energy
- A smart, energy efficient and truly sustainable society for all citizens of Europe

We are committed to lead a cost-effective energy transition by:

investing in clean power generation and transition-enabling solutions, to reduce emissions and actively pursue efforts to become carbon-neutral well before mid-century, taking into account different starting points and commercial availability of key transition technologies;

transforming the energy system to make it more responsive, resilient and efficient. This includes increased use of renewable energy, digitalisation, demand side response and reinforcement of grids so they can function as platforms and enablers for customers, cities and communities;

accelerating the energy transition in other economic sectors by offering competitive electricity as a transformation tool for transport, heating and industry;

embedding sustainability in all parts of our value chain and take measures to support the transformation of existing assets towards a zero carbon society;

innovating to discover the cutting-edge business models and develop the breakthrough technologies that are indispensable to allow our industry to lead this transition.

Dépot légal : D/2021/12.105/17

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 relevant problems 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.

Survey Instructions and Layout

The electronic interactive version of this survey contains questions based on which type of organisation you represent. The questions are tailored depending on whether you represent a Member State authority (at any level of administration and IED implementation), industry (individual company or trade association) or other stakeholder group (environmental NGOs, third parties and countries with links to the IED, technical experts, academia and researchers). **This pdf version of the survey (for**

information, rather than to be filled in) includes all questions, for reference and for complete transparency.

Where questions are not relevant to your experience or knowledge, or to your industry or administrative sector, please respond 'not applicable' or leave blank and proceed to the following one. Or, if you do not know the response, please respond 'do not know'.

Where specific questions appear more relevant to other organisation(s) you are aware of, please forward the survey to them inviting them to respond to the specific questions.

At the start of each section of the survey, background and options being considered are in blue text. In case it is helpful, a document that compiles this introduction and all the blue text is available [here](#).

The deadline for this survey is **2 April 2021**. You can only take this survey once.

NB You can save your progress by pressing "Next" at the bottom of a survey page, and complete the survey later. To return to the survey, open the link to the survey on the same computer (and using the same browser) and you will be automatically directed to the page of your survey response last saved.

About you

Questions to all stakeholders

Please provide the following details about yourself. Your personal data will not be published. Statistical analysis and open text comments will be associated with country and stakeholder type. The provision of personal data is voluntary. However, if you do not provide your personal data, we will not be able to contact you with additional information to follow up your response. Further information on how we process your personal data is available [here](#).

Name: *[open text response]*

* Name of organisation or institution: *[open text response and N/A option]*

Email address: *[open text response]*

* Country of residence: *[List of EEA33 countries; Other (please specify [open text response])]*

* 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]**

NB. If you are happy to be contacted, please make sure that you have filled in your email address or we will not be able to get in touch.

Questions to industry

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

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 aware of major environmental pressures from other (agro-)industrial activity in the EU and currently outside the scope of the IED?** [Yes; No] If yes, specify the activity, the relevant environmental pressures and an estimate of the potential for the IED to reduce them [*open text response*].

2. A. 1) 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.

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. (There are two tables to address all the impacts. There are 4 options in the first table and 5 in the second. N/A = Not applicable) [Rate as follows: *Significant*; *Moderate*; *Slight*; *No impact*; *Do not know*; *Not applicable*].

	Emissions to air	Emissions to water	Emissions to soil	GHG emissions
Intensive cattle farms	Do not know (all)			
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				
Ship building (other than coating) and dismantling				
Other (as specified in question 1)				

2. A. 2) (Continuation from question above)

	Energy use	Water use	Other resources/ materials use	Waste generation	Other
Intensive cattle farms	Do not know (all)				
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					
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]*

2. B. 1) If you have answered “significant” above, by how much could the environmental pressure/ pollution be reduced for the following (agro-)industrial activities, and by environmental pressure/ pollutant group, if IED provisions, were introduced?

For each of the following activities in your area of experience, use the dropdown menu to rate the potential reduction in environmental pressure/ pollution. (There are two separate tables below to address all pressures/ pollution groups. There are 4 options in the first table and 5 in the second. Rating key: Significant = >15% reduction, Moderate = 5% - 15% reduction, Slight = <5% reduction, N/A = Not applicable) *[Rate as follows: Significant, >15% reduction; Moderate, 5% -15% reduction; Slight, <5% reduction; No impact; Do not know; Not applicable].*

	Emissions to air	Emissions to water	Emissions to soil	GHG emissions
Intensive cattle farms	Not applicable (all)			
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				
Ship building (other than coating) and dismantling				
Other (as specified in question 1)				

Please provide further information including e.g. identification of specific substances and the scale of their likely reduction *[open text response]*

2. B. 2) (Continuation from question above)

	Energy use	Water use	Other resources/ materials use	Waste generation	Other
Intensive cattle farms	Not applicable (all)				
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	
Ship building (other than coating) and dismantling	
Other (as specified in question 1)	

Please provide further information including e.g. identification of specific substances and the scale of their likely reduction [*open text response*]

- 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*]

Questions to industry

- 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 compliance with 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							x
Intensive mixed livestock farms							x
Intensive aquaculture							x
Mining/ quarrying industries							x
Upstream oil and gas industries							x
Battery production							x
Battery disposal and recovery							x
Ship building (other than coating) and dismantling							x
Downstream ferrous metal processing activities: forging presses, cold rolling and wire drawing							x
Other (as specified in question 1)							x

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

5. **Assuming IED permitting is introduced, to what extent do you think this would affect 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: *Significant increase; Increase; No impact; Reduction; Significant reduction; Do not know; Not applicable*].

	EU competitiveness	EU market share	Trade with third countries
Intensive cattle farms	Not applicable (all)		
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			
Other (as specified in question 1)			

Questions to competent authorities

6. A) 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.

How economically significant are the following (agro-)industrial activities in your Member State?

For each of the following activities, use the open text response option to **estimate the number of installations**.

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	

Other (as specified in question 1)	
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6. B) 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.

How economically significant are the following (agro-)industrial activities in your Member State?

For each of the following activities, use the open text response option to **estimate the number of full time employees.**

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	
Other (as specified in question 1)	

6. C) 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.

How economically significant are the following (agro-)industrial activities in your Member State?

For each of the following activities, use the open text response option to **estimate the scale of any other economic activity. Please specify what 'other' is.**

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	
Other (as specified in question 1)	

7. **Are any of the following national policy interventions already in place in your Member State to regulate the activities' environmental impacts?** [Respond yes or no. Select all that apply]

	<i>“Hard” legally binding rules (legislation)</i>	<i>Economic instruments (market-based instruments)</i>	<i>“Soft” (guidance, standards) regulation voluntary</i>
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			
Other (as specified in question 1)			

For the policy/policies referred to above, provide a URL reference for the policy intervention [*open text response*]

8. By extending the scope of the IED to include additional (agro-)industrial activities, 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 compliance with the permit conditions).

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

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, inspection and enforcement (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 (other than							

coating) and dismantling							
Downstream ferrous metal processing activities: forging presses, cold rolling and wire drawing							
Other (as specified in question 1)							

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

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

9. A) 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. (There are two separate tables below to address all environmental pressures. There are 4 options in the first table and 5 in the second.) [Rate as follows: *Significant; Moderate; Slight; No impact; Do not know; Not applicable*].

	Emissions to air	Emissions to water	Emissions to soil	GHG emissions
Waste management - biological treatment	Not applicable (all)			
Textiles (pre-treatment, dyeing and finishing)				
Smitheries				
Medium Combustion Plant	Slight (all)			

9. B) (Continuation from question above)

	Energy use	Water use	Other resources/ materials use	Waste generation	Other
Waste management - biological treatment	Not applicable				
Textiles (pre-treatment, dyeing and finishing)					
Smitheries					
Medium Combustion Plant	Slight (all)				

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

Eurelectric is against the lowering of the current 50 MWth threshold for the application of the IED. Although the alignment with the ETS threshold (20 MWth) might seem like a logical step, installations in this segment (20-50 MWth) under these two instruments would follow different rules (in particular on aggregation) and answer to different objectives (decarbonisation and pollution impact). This would increase administrative and financial burden on smaller combustion plants with the possible additional burden of CO2 limit for plants not included in the scope of the ETS.

The MCP Directive already adequately fills the regulatory gap at EU level between large combustion plants (> 50 MWth) covered by the IED and smaller appliances (heaters and boilers <1 MWth) covered by the Ecodesign Directive. Expected reporting from the Member States and the Commission will allow for an assessment of the progress made through the implementation of the MCPD. There are also specific review clauses to address other issues such as energy efficiency and carbon monoxide emissions.

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

Questions to industry

11. 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 the requirements 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 no impact	5-15% decrease	>15% decrease	Do not know	Not applicable
Waste management	Not applicable (all)						

- biological treatment							
Textiles (pre-treatment, dyeing and finishing)							
Smitheries							
Medium Combustion Plant	x						

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

- EU competitiveness
- EU market share
- 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	Not applicable (all)		
Textiles (pre-treatment, dyeing and finishing)			
Smitheries			
Medium Combustion Plant	Reduction	Reduction	Reduction

Questions to competent authorities

13. A) For (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 economically significant are the following (agro-)industrial activities that fall below the current IED production capacity thresholds in your Member State?

For each of the following activities, use the open text response option to **estimate the number of installations.**

Waste management - biological treatment	
Textiles (pre-treatment, dyeing and finishing)	
Smitheries	
Medium Combustion Plant	

13. B) For (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 economically significant are the following (agro-)industrial activities that fall below the current IED production capacity thresholds in your Member State?

For each of the following activities, use the open text response option to **estimate the number of full time employees.**

Waste management - biological treatment	
Textiles (pre-treatment, dyeing and finishing)	
Smitheries	
Medium Combustion Plant	

13. C) For (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 economically significant are the following (agro-)industrial activities that fall below the current IED production capacity thresholds in your Member State?

For each of the following activities, use the open text response option to **estimate the scale of any other economic activity. Please specify what 'other' is.**

Waste management - biological treatment	
Textiles (pre-treatment, dyeing and finishing)	
Smitheries	
Medium Combustion Plant	

14. **Are any of the following national policy interventions already in place to regulate these activities' environmental impacts in your Member State?** [Respond yes or no. Select all that apply]

	<i>Legislation</i>	<i>Market-based instruments</i>	<i>Soft regulation (guidance, voluntary standards)</i>
Waste management - biological treatment			
Textiles (pre-treatment, dyeing and finishing)			
Smitheries			
Medium Combustion Plant			

For the policy/policies referred to above, provide a URL reference for the policy intervention [*open text response*]

15. 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 the requirements 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 for your authority?

For each of the following (agro-)industrial activities that fall below the current IED production capacity thresholds, rate the change in annual administrative costs i.e.

related to permitting, compliance, inspection and enforcement (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
Waste management - biological treatment							
Textiles (pre-treatment, dying and finishing)							
Smitheries							
Medium Combustion Plant							

16. Landfills above a certain threshold are already included in the IED under Annex I 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.

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)**
3. **What impacts would you expect of an amendment to move the definition of BAT for landfills from the Landfill Directive to the IED?**

Environmental impacts, including emission of air pollutants to air, soil and water as well as emission of GHGs	[open text response]
Economic impacts	[open text response]
Administrative costs	[open text response]

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

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

Questions to all stakeholders

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

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

Questions to industry

19. **What impact do you think a tailored regulatory permitting framework for intensive livestock production installations would have on annual administrative costs i.e. related to permitting, compliance and inspection (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*]

Questions to competent authorities

20. What impact do you think a tailored regulatory permitting framework for **intensive livestock production** installations would have on annual administrative costs i.e. permitting, compliance, inspection and enforcement (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
Permitting							
Compliance							
Inspection							
Enforcement							

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.

Questions to all stakeholders

21. A) **To what extent would the following options on setting permit conditions have an impact on the environment?** (There are two tables to address all the impacts. There are 4 options in the first table and 5 in the second. Options key: Significant = significant improvement, N/A = Not applicable) [*Significant improvement; Moderate; Slight; No impact; Do not know; Not applicable*]

	<i>Emissions to air</i>	<i>Emissions to water</i>	<i>Emissions to soil</i>	<i>GHG emissions</i>
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 (all)			
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.				
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.				

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.	
Prohibit the indirect release of polluting substances to water	
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])).	
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	

21. B) (Continuation from question above)

	Energy use	Water use	Other resources/ materials use	Waste generation	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 (all)				
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.					
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.					
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.					

Prohibit the indirect release of polluting substances to water	
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])).	
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	

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

The questionnaire focuses on the different media and doesn’t follow an integrated approach. This neglects cross-media effects that will avoid a transfer of environmental impacts from a media to another.

There must be no double regulation of GHG emissions

Consistency with the updated EU's 2030 energy and climate policy and its implementation timeline is crucial to achieve better environment and human health in a cost-effective approach. In particular, the power sector wants to emphasise that, according to article 9.1 IED, “[w]here emissions of a greenhouse gas from an installation are specified in Annex I to Directive 2003/87/EC in relation to an activity carried out in that installation, the permit shall not include an emission limit value for direct emissions of that gas, unless necessary to ensure that no significant local pollution is caused”. Decarbonisation of industry, including the power sector, is driven by the climate and energy policy framework, in particular the ETS. The role of the IED is to ensure high standards of environmental protection and industrial emissions reduction, in particular for local pollutants, and not to drive decarbonisation. However, greenhouse gases emissions of IED activities which are not covered by the ETS Directive can already be addressed in the frame of the IED. For instance, the LCP BREF and its BAT conclusions (Commission Implementing (EU) Decision 2017/1442) include methane slip values for reciprocating engines and measuring obligations for nitrous oxide from fluidised bed boilers. Against this background, the revision of the IED should not establish standards for CO₂ emissions for installations covered by the ETS, like those of the power sector.

Similarly, article 9.2 IED adds that “[f]or activities listed in Annex I to Directive 2003/87/EC, Member States may choose not to impose requirements relating to energy efficiency in respect of combustion units or other units emitting carbon dioxide on the site”. IED contains general provisions on energy and specifies that BAT should include consideration on this so although the IED should not be the primary vehicle its provisions ensure a holistic approach is taken to the “environment as a whole”. The LCP BREF also contains nonbinding design values on energy efficiency. However, there should not be mandatory BATAELs for energy efficiency as this could jeopardise the operability of plants. For new plants, this could have unintended consequences in relation to a lower uptake of conventional or emerging decarbonisation technologies which are likely to have a lower overall energy efficiency whilst substantially reducing GHG emissions. For existing plants, the scope for making substantial changes to the plant in order to make incremental efficiency improvements is very limited and this could result in plant closures. There are already strong commercial drivers to maintain performance within the framework of what is achievable for the specific technology.

Preserve flexibility embedded in IED for site specific reasons

BAT-AELs are legally binding and are frequently expressed as ranges in BREFs/BAT conclusions. This is a sensible choice as BREFs can’t have perfect solutions for all plants across all Member States. This is also a beneficial solution for the environment as it takes into consideration cross-media effects (for instance a

process can have higher NOx emissions but be more efficient and emit less CO2). Eurelectric wants to highlight that the

IED definitions of "best available techniques" and "available techniques" remain completely valid. This means that it is not possible to use the lower limit of the BAT-AEL range as the default option for setting ELVs in permits.

Article 15.4 IED also clearly allows for derogation because the geographical location or the local environmental conditions of the installation concerned or the technical characteristics of the installation concerned would lead to disproportionate costs compared to the environmental benefits. In the case of LCPs, this derogation is allowed within the limits set in IED's Annex V. While the perception of cost-benefit can change over time, it is

important that the long investment cycles in the industry are respected. Besides, the cycle of revision for BREFs leads to new BAT conclusions and reconsideration of permits on a regular basis showing that the IED permitting system is a dynamic one. This would also allow competent authorities to support operators as they face the evolution of the electricity system which is likely to require more flexibility going forward.

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]

Generally applicable mandatory time limitations of derogations are not needed.

They could be extended depending on the situations. For example, deployment of low carbon technologies will require some testing periods that could result in emissions higher than ELVs. Some local specificities could justify to reapply for a derogation. Beside, assessment of derogations is part of the BAT revision and updating process.

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

See text answers to question 21.

The revision of the IED should not establish standards for CO₂ emissions for installations covered by the ETS, like those of the power sector.

There should not be mandatory BATAELs for energy efficiency.

It should not be possible to use the lower limit of the BAT-AEL range as the default option for setting ELVs in permits.

The derogation system established by article 15(4) should be preserved.

Questions to industry

24. **Please rate the economic impacts of the following options on setting permit conditions?** (There are two tables to address all the impacts. There are 3 options in the first table and 3 in the second.) [>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
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

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
Develop a standardised mandatory methodology to assess the disproportionality between costs of implementation and	>15% increase	>15% increase	>15% increase

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.	5-15% increase	>15% increase	>15% increase
Prohibit the indirect release of polluting substances to water	5-15% increase	>15% increase	>15% increase
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
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

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

	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	Not applicable (all)		
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.			
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.			
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.			

Prohibit the indirect release of polluting substances to water	
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])).	
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	

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

Questions to competent authorities

25. **To what extent would you expect the following options to impact on annual administrative costs i.e. related to permitting, compliance, inspection and enforcement (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*]

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.
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.
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.
Prohibit the indirect release of polluting substances to water
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])).
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

26. **Has your country implemented or is it planning to implement measures to set ELVs for indirect releases of polluting substances to water when taking into account the effect of a waste water treatment plant?** [Yes; No]. If yes, please describe. *[open text response]*
27. **Has your country implemented or is planning to implement measures to further clarify/ define the conditions for setting stricter ELVs (going beyond BAT) to meet Union environmental quality standards?** [Yes; No]. If yes, please describe. *[open text response]*

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	slight
Development of baseline reports	significant
Stringency of requirements upon definitive cessation of activities	significant
Identification of waste (co-) incineration activities that require permitting	significant

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]

In many MS guidance exists that is used by power plants operators. For example, in France "Guide méthodologique pour l'élaboration du rapport de base prévu par la directive IED version 2.2" edited by Ministry of Ecology and "Guide la mise en oeuvre de la Directive sur les Emissions Industrielles" edited by DGPR (both publications in French). German operators and competent authorities can use the following national guidance documents to develop their baseline reports: Bund/Länder-Arbeitsgemeinschaft Bodenschutz (LABO) in collaboration with the Bund/Länder-Arbeitsgemeinschaft Wasser (LAWA): „Arbeitshilfe für den Vollzug der nationalen Rechtsvorschriften zur Umsetzung der Industrie-Emissions-Richtlinie (IE-RL) einschließlich Arbeitshilfe zum Ausgangszustandsbericht für Boden und Grundwasser (Anhang 1) und einschließlich Arbeitshilfe Rückführung (Anhang 2)“ (both publications in German language).

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Questions to competent authorities

30. **Do you provide guidance in the following areas?** [Yes; No]. If yes, please specify guidance [open text response].

Monitoring indirect releases

Monitoring releases to soil
Implementation of BAT Conclusions in permits
Identification of waste (co-) incineration activities that require permitting

31. **Do you use existing guidance in the following areas?** [Yes; No]. If yes, please specify guidance [open text response].

Monitoring indirect releases
Monitoring releases to soil
Implementation of BAT Conclusions in permits
Identification of waste (co-) incineration activities that require permitting

32. **Would you welcome more detailed legal requirements at EU level to provide greater legal certainty for the following?** [Yes; No]

Monitoring indirect releases
Monitoring emissions to soil
Implementation of BAT Conclusions in permits
Development of baseline reports
Stringency of requirements upon definitive cessation of activities
Identification of waste (co-) incineration activities that require permitting

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

Not applicable

Questions to competent authorities

36. **To what extent would introduction of common rules for ELV compliance assessment under Chapter II of the IED contribute to the following?**
- Simpler interpretation
 - Better compliance control
- [Significant improvement; Moderate; Slight; No impact; Do not know; Not applicable]*
37. **To what extent would EU inspectorate support activities add value to regional and/ or national measures?** *[Significant value added; Moderate; Slight; No impact; Do not know; Not applicable]*
- Disseminating good practice
 - Issuing guidance
 - Acting as an (non-legal) arbitration body
 - Acting as independent experts for specialised themes
 - Organising peer-review
 - Undertaking EU inspections of major compliance breaches
 - Other, please specify

If you have referred to an “Other” activity, please specify. *[open text response]*

38. **Would the following EU action support Member States in implementing Article 79 of the IED stating that penalties applicable to infringements of the national provisions adopted pursuant to the IED ‘shall be effective, proportionate and dissuasive’?** *[Significant value added; Moderate; Slight; No impact; Do not know; Not applicable]*
- Setting in a non-exhaustive way penalty categories and their levels?
 - Setting penalties at a specific percentage of a company or plant’s global turnover
 - Other – please describe *[open text response]*

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 text response]

We understand that this is not about continuous monitoring but real time access to continuously monitored information. Data is available at plant level but usually not transmitted in most countries. Doing so would raise issues (e.g. OTNOC). This is a complex overload of information to interpret (contextual background and technical understanding). It can't be meant for the general public. Summary reports for authorities or available upon request are more tailored and suitable using existing reporting requirements. As a sector, the power sector (together with the incineration sector) has the most experience in continuous monitoring.

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

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

Questions to industry

41. **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

Questions to competent authorities

42. **To what extent would the use of real time monitoring systems affect 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]
43. **Would requiring external monitoring downstream/downwind of the installation help with the compliance checking and inspections of IED installations benefitting from derogations under Art. 15(4)?** [Yes/No, please elaborate]

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? [*Significant reduction; Moderate; Slight; No impact; Do not know; Not applicable*]

Questions to industry

None identified.

Questions to competent authorities

45. **Where there is evidence of transboundary pollution, what are the main barriers preventing cooperation between neighbouring Member States?** *[open text response]*

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?** *[Significant reduction; 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 and REACH, particularly for SVHCs?** *[Yes; No]* If yes, please specify. *[open text response]*

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]]

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. A) To what extent would the obligation for operators to establish a chemical management system impact on the following? (There are two tables to address all the impacts. There are 3 options in the first table and 2 in the second.) [Significant increase; Increase; No impact; Reduction; Significant reduction; Do not know; Not applicable]

	EU competitiveness	EU market share	EU trade with third countries
Operators to establish a chemical management system			

52. B) (Continuation from question above)

	Employment	Consumer prices
Operators to establish a chemical management system		

Questions to competent authorities

53. To what extent do you expect the obligation for operators to establish a chemical management system to 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]

54. A. Do you require operators to make CMS reports annually as part of their IED permit requirements? [Yes; No; optional further comment, [open text response]]

B. If YES to (a), do you require operators to utilise digitally accessible reporting of the CMS [and EMS] updates? [Yes; No; optional further comment, [open text response]]

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 mandatory key environmental issue (KEI) would have on reducing GHG emissions?**
[Significant improvement; Moderate; Slight; **No impact**; Do not know; Not applicable]

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

Set GHG ELVs and energy efficiency requirements in permit conditions (in accordance with BAT-AEL and/or BAT-AEPLs adopted by BAT Conclusions).	No impact
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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	Slight
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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]

Greenhouse gases emissions of IED activities which are not covered by the ETS Directive can already be addressed in the frame of the IED. For instance, the LCP BREF and its BAT conclusions (Commission Implementing (EU) Decision 2017/1442) include methane slip values for reciprocating engines and measuring obligations for nitrous oxide from fluidised bed boilers.

To reduce GHG emissions, it is more effective to implement energy efficiency incentives that have a direct impact on these emissions than to introduce GHG ELVs in the future directive, considering also the IED already refers to BREFs that are covering energy efficiency topics. Likewise, the inclusion of incentive programs for decarbonization roadmaps would also be more effective.

Questions to industry

59. A) **To what extent would compliance with additional permit conditions relating to GHG ELVs and energy efficiency standards impact on the following, for plants NOT covered by the ETS?** Use the dropdown menu to rate the extent of the impact. (There are two tables to address all the impacts. There are 3 options in the first table and 2 in the second.) [Rate as follows: Significant decrease; Moderate; Slight; No impact; Do not know; Not applicable]

	EU competitiveness	EU market share	EU trade with third countries
Set GHG ELVs and energy efficiency requirements in permit conditions (in accordance with BAT-AEL adopted by BAT Conclusions)	Moderate	No impact	Moderate
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	Moderate	No impact	Moderate

59. B) (Continuation from question above)

	Employment	Consumer prices
Set GHG ELVs and energy efficiency requirements in permit conditions (in accordance with BAT-AEL adopted by BAT Conclusions)	Do not know	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	Do not know	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 not know; Not applicable]

	EU competitiveness	EU market share	EU trade with third countries
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.	No impact	No impact	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	No impact	No impact

60. B) (Continuation from question above)

	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.	No impact	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		
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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]*

No impact

Questions to competent authorities

62. What would be the impact of the following measures on annual administrative costs when updating permit conditions? Use the dropdown menu to rate the extent of the impact relative to existing annual costs. *[Rate as follows: >15% increase; 5-15% increase; little or no impact (+/-5%); 5-15% decrease; >15% decrease; Do not know; Not applicable]*

	Administrative costs impact
Set GHG ELVs and energy efficiency requirements in permit conditions (in accordance with BAT-AEL adopted by BAT Conclusions)	
Establish a long-term permit review obligation (e.g. by 2035) focusing on the capacity of the concerned installations to operate in accordance with EU's carbon neutrality objectives	

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/ Circular Economy, especially where implementing BAT-AEPLs?** [open text response]

Fatal heat loss recovery to provide energy for district heating.

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 waste water 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]

AEPLs are already reported indirectly to E-PRTR and there are large numbers of AEPLs depending on technology, site, etc.

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 the effective 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 text response]

CBI should not be used for deriving binding AEPLs. The setting of binding AEPLs must be based on transparent reference plant data embedded into detailed knowledge on the plant configuration and in-depth contextual information.

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 should not be used for deriving binding AEPLs. AEPLs should not be made mandatory. No change in the currently applicable legislation is required

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	Do not know
Consumer prices	Increase
EU competitiveness	Do not know
EU market share	Do not know
Trade with third countries	Reduction

Questions to competent authorities

69. What impact would be expected on annual administrative costs (i.e. related to permitting, compliance, inspection and enforcement) if BAT-AEPLs were binding? Use the dropdown menu to rate the potential impact on annual administrative costs relative to existing annual costs. [Rate as follows: >15% increase; 5-15% increase; little or no impact (+/-5%); 5-15% decrease; >15% decrease; Do not know; Not applicable]

	Permitting	Compliance	Inspection	Enforcement
Binding BAT-AEPLs				

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 take into account value chain issues that could be addressed by the IED operator. Two options are under consideration to address this issue:

It is proposed to extend the scope of monitoring/ reporting to cover resource efficiency improvements achieved under the EMS by introducing an operator Resource Efficiency and Circular Economy Plan, organising at plant level the continuous improvement of resource efficiency (materials, water and energy). Such a plan would include:

- (i) Operator's measures that improve in-house resource efficiency (water, materials and energy consumption and use);
- (ii) Choices made by the operator of an IED installation that demonstrably affect:
 - a. the environmental footprint of the plant's feedstocks and resources, and/or
 - b. the environmental impacts associated with the treatment of the plant's waste and the use of by-products of the production process, in the same or in other sectors.

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

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

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

Questions to all stakeholders

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

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? [*Already covered in LCP BREF (use of by-products and reagents, fuel quality standards and energy efficiency)*]

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*]

Questions to competent authorities

74. **To what extent would approving and checking compliance of operators' Resource Efficiency and Circular Economy plans 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 waste¹, is reprocessed into products, materials or substances. (NB such reprocessed uses may be for the original or other purposes, and may be in a facility that exclusively or mainly uses wastes as an input for its production.)

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

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

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

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 EU guidance on good practices, usefully support such national plans? *[Significant improvement; Moderate; Slight; **No impact**; Do not know; Not applicable]*

Questions to industry

77. **Are you aware of national initiatives that support industrial symbiosis for your sector?** [**Yes**; No]. If yes:
- Do they refer to your sector's feedstock(s)? [**Yes**; No]
 - Do they refer to your sector's wastes or by-products? [Yes; No]
 - Please provide a reference and URL for the national initiatives.
78. **What initiatives is your sector pursuing to promote industrial symbiosis at national or regional level, and are these initiatives confined to your sector, or do you recover resources from other sectors?** *[Open text response]* **LCPs can often be part of other industrial activities. There can be symbiosis for heat or water.**

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]*:

¹ EU, 2007. Communication from the Commission to the Council and the European Parliament on the Interpretative Communication on waste and by-products, Brussels: COM/2007/0059 final.

	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 (all)					
Reinforced mandatory resource efficiency reporting requirements in EMS						
Inclusion in BREFs of critical, sector-specific information to support setting of End-of-Waste criteria						
Promotion of industrial symbiosis by Member States/ regions/ intra-sector and inter-sector local systems	Medium (all)					

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

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. No impact
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. Do not know

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
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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 No impact
More participation of technology developers to get their views (and evidence) on emerging and breakthrough techniques No impact
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 No impact
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
Industrial operators
Environmental NGOs
Member State representatives / competent authorities
Civil NGOs
Think tanks
Applied RTD institutes
Technology developers and providers
European Environment Agency
European Institute of Innovation & Technology (EIT)
Other, please specify

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

84. Assuming that energy intensive sectors would decarbonise faster and experience deeper transformation, **do you consider it useful to focus the activities of the Innovation Observatory on energy intensive sectors during its first years of operation?** [*strongly agree, agree, neutral, disagree, strongly disagree, do not know*]
85. **To what extent would accelerated uptake of innovative techniques through improvements of the IED, have an impact on the following?** [*Significant increase; Increase; No impact; Reduction; Significant reduction; Do not know*]
Where significant, please provide more detail [*open text response*]

EU competitiveness
EU market share
Trade with third countries
Employment
Consumer prices
Innovation
Reduced environmental impacts via advance investment cycle planning of new/ revised installations, processes and equipment

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

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

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

5.1 Public access to information

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

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

- Include in IED Article 24(2) a requirement for internet open-access (i.e. free of charge and without restricted access to registered users).
- Require a publicly available permit summary and a clear overview of the timing of the process and validity, and dates of reviews/renewals.

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

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]

Questions to competent authorities

89. **Where permit documents are not available to the public online, what are the reasons?** [open text response]
90. **Where a central permit repository exists, what are the administrative costs of creating and running a central permit repository at national level?** Please provide a quantified estimate (person-days needed). [open text response]
91. **To what extent would a permit summary to accompany permit documentations using a standard template impact annual administrative costs relative to existing annual costs?** i.e. costs associated with approving the summary and making it publicly available. [>15% increase; 5-15% increase; **little or no impact (+/-5%)**; 5-15% decrease; >15% decrease; 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; Not available; 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*]

Questions to industry

None identified.

Questions to competent authorities

None identified.

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
To comply with BAT Conclusions No impact
To reflect developments in BAT (where no BAT Conclusions have been adopted) No impact
To address significant pollution despite existing ELVs No impact

To ensure operational safety	No impact
To comply with environmental quality standards	No impact

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

Questions to industry

None identified.

Questions to competent authorities

96. To what extent do current public participation activities under Art. 24(1) cover those aspects of permitting that have the most significant environmental impact? *[Fully; Partially; Not at all; Unable to respond]* Where coverage is limited, state which aspects should be extended. *[open text response]*
97. A. Do you have regional and/ or national measures providing for public participation in additional cases to those required under Art. 24(1)? *[Yes; No]*
B. If yes, please indicate which are the additional cases covered by regional and/or national legislation) *[open text response]*
98. To what extent would widening the scope of public participation have a direct impact on annual administrative costs (relative to existing annual costs) in the specific example of where the public is invited to participate in cases where a permit is updated to reflect BAT Conclusions? *[>15% increase; 5-15% increase; little or no impact (+/-5%); 5-15% decrease; >15% decrease; Do not know; Not applicable]*

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'	Unhelpful
Clarification of the definition of 'co-incineration'	Slightly helpful
Clarification of the definition of 'normal operating conditions' for LCPs and (co)-incinerators	Neutral/no view
Streamlining the provision of the various chapters of the IED regarding gasification and pyrolysis plants	Slightly helpful
Harmonising or allowing conversion between the different averaging periods used for LCPs in IED Annex V and the LCP BAT Conclusions	Slightly helpful
Harmonising the approaches taken in accounting for measurement uncertainty in compliance assessment for LCPs and waste (co)-incinerators	Slightly helpful

Please justify [open text response]

Clarification of the definition of combustion plants

There needs to be careful consideration of unintended consequences relating to the modification of the aggregation rules ('de minimis' threshold, distinction between new and existing plants, etc.) under IED, MCPD and EU ETS.

Modification and harmonization of the ELV compliance rules

On the one hand, harmonisation is generally helpful. On the other hand, it would need to take account of the fact that existing plants have been permitted based on their current local compliance arrangements; altering these arrangements may have consequences for plant investment and ongoing operations. The approach taken should therefore be consistent with minimising unintended consequences as well as being legally and technically robust. It needs to be recognised that the assessment of measurement uncertainty is a complex subject. If common compliance assessment rules were to be produced then these should take into account the following aspects:

- Legal certainty for both the operator and the competent authority
- Simplicity and robustness with regards to reporting and plant operation
- Consistency with CEN standards – taking into account the full systematic measurement uncertainties associated with the test methods that are used to calibrate continuous emissions monitors.

For all of these reasons, if common rules are developed, then following the approach of subtracting the prescribed confidence intervals that are defined in the IED, for all averaging periods, should be recommended for ELV compliance assessment. However, it should be clear that confidence intervals should not be subtracted when estimating mass emissions for inventory reporting.

Normal Operating Conditions

The IED already states that start and shut down situations and certain malfunctions of flue gas mitigation technology are not included in IED-ELV compliance and thus neither in BAT-based ELV compliance. In possible OTNOC situations the IED ELVs still apply and emissions are regulated anyhow. Guidance is useful and already exists for LCPs but binding rules would not be helpful as flexibility is needed at plant level.

Gasification

The gasification is currently determined very unclearly in IED (see article 42.1). That has caused substantial problems both in the technology market and in the permitting phase. The main question is whether the gasification gas is classified as "waste" or not. The possible waste status of gasification gas determines whether the incineration unit falls under chapter IV. The problem is that IED compares natural gas and gasification gas which is not justifiable.

Definition of co-incineration: it should be done to avoid double uncertainty and double regulation. For existing plants, changing the definition can have drastic consequences.

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

The BAT conclusions for LCPs (Commission Implementing (EU) Decision 2017/1442) use different averaging periods that the ones used for emission limit values that are set in the IED's Annex V (yearly and daily in the BAT conclusions and monthly and hourly in IED's Annex V). The power sector had advocated for an alignment of the averaging periods in the BREF and BAT conclusions with the ones used in the IED. However, we are reaching the end of the four years competent authorities had to reconsider permit conditions following the adoption of the BAT conclusions in 2017. Therefore, competent authorities and operators have devised ways to accommodate these discrepancies as needed. While a guidance would be useful, changing the values in Annex V for that reason should be considered very carefully. Indeed, BAT-AELs ranges and emission limit values in IED's Annex V don't fulfil the same role. For the revision of the IED it will be crucial to ensure that it remains suitable for the future and can accommodate the changing role of combustion plants in the energy system.

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'	Do not know (all)	
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 legal gaps or loopholes.

Questions to all stakeholders

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

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

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

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

6.3 Incoherence between Industrial Emissions policy and related environmental policies

Accidents Doctrine for the IED

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

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

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

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

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
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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:

- Please specify the reason. *[open text response]*
- 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]*

Questions to industry

None identified.

Questions to competent authorities

None identified.

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:

- Which subdivisions of the chemicals industry would this be most relevant for?**
[open text response]
- 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*]
- 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 issue of hydrogen production through electrolysis in particular from RES may need particular attention at some stage to avoid burdensome permitting processes for this clean energy source that could delay its uptake in the energy sector. Note that to date there is no threshold for consideration under the IED for hydrogen production at industrial scale.

[Page shown when “Done” is pressed on the “Survey close” page]

Thank you for submitting your response to this survey on the Industrial Emissions Directive revision.
All information entered has been submitted for analysis.

If you have any queries, please contact IED.revision@ricardo.com



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