



Industrial Emissions review package

Part 1 – policy and impact assessment

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WPE, 2 and 3 May 2022

Industrial emissions review package – Part 1

1. Policy background
2. Impact assessment approach and methodology
3. Proposed measures, incl. impact assessment
 1. Problem area 1: Effectiveness
 2. Problem area 2: Innovation
 3. Problem area 3: Use of resources and of chemicals
 4. Problem area 4: Decarbonisation
 5. Problem Area 5: Scope

NB: Part 2 will present the two legal instruments

1. Amendment of Industrial Emissions Directive (IED)
2. Industrial Emission Portal Regulation (IEPR)

1. Policy Background

- European Green Deal/ Zero Pollution ambition

The European Green Deal – Zero Pollution Ambition

“review EU measures to address pollution from large industrial installations. It will look at the sectoral scope of the legislation and at how to make it fully consistent with climate, energy and circular economy policies.”



Clear remit & need for action

- Industrial Emissions Directive
- European Pollutant Release & Transfer Register (E-PRTR) Regulation

Industrial Emissions Directive (IED) - what is it?..... (1)

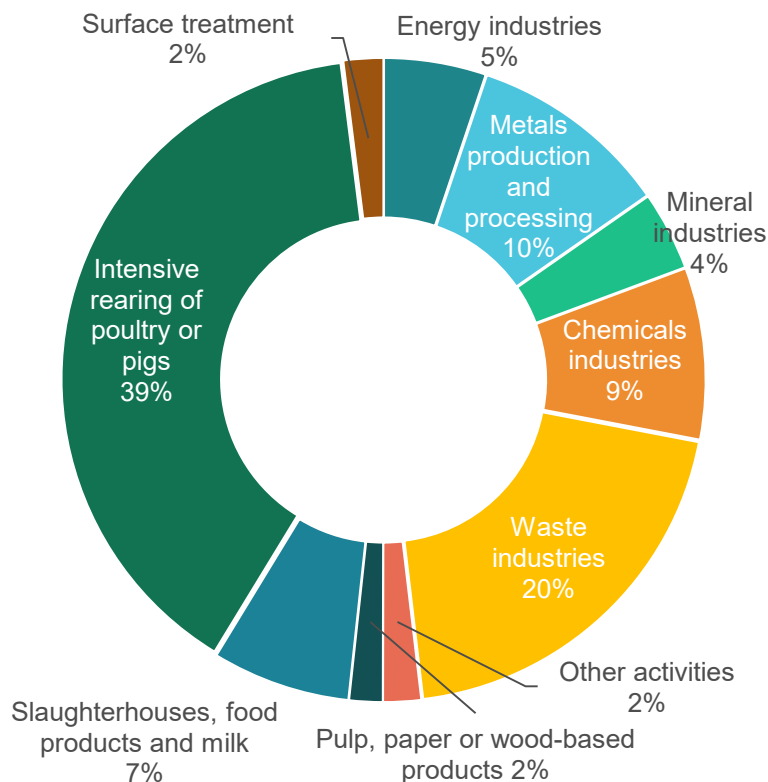
Pollution prevention and control of air, water and soil emissions from Europe's largest and most complex industrial sites and some large intensive livestock farms, minimising resource use (energy, materials and water), optimising process efficiency, encouraging circular economy practices, and ensuring waste prevention and control.....

- ✓ Achieved by **EU-level agreements** (via the “**Seville Process**” of co-creation between Member States, NGOs and industry experts) of ‘**Best Available Techniques**’ (BAT)
- ✓ Applied **locally** via **IED permits** – taking into account **plant techno-economic conditions** (type of techniques used, how up-to-date, etc.)

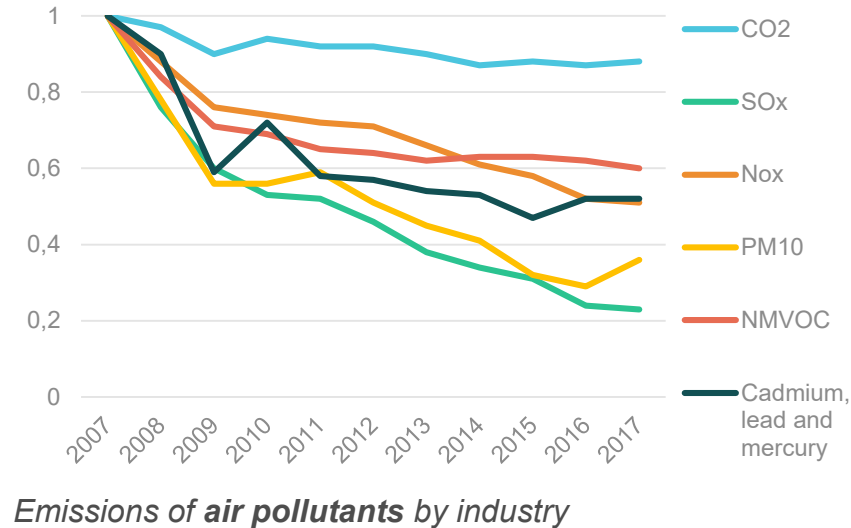
Industrial Emissions Directive (IED) - what is it?..... (2)

IED regulates over **30 000+ large industrial installations** and **20 000+ farms**

% of installations per industry sector



Supports a **high level of protection** of human health and the environment as a whole



Despite clear reduction, IED plants still represent about **20% of emissions to air**, **20% of emissions to water** and **40% of GHG emissions**.

IED is a permitting directive

Access to justice

Permitting

Monitoring

Access to information

Inspections

Reduction of Environmental impacts

Industrial Emissions Portal (new name)

- Was the European Pollutant Release and Transfer Register website (**E-PRTR**)
- Website data on releases of 91 pollutants to air, water and soil; plus waste transfers from the largest industrial/agricultural facilities (~34,000)
- Time series of data since 2007
- Provides public access to information on the environmental performance of industrial facilities – as required by the Kyiv Protocol under the Aarhus Convention
- Access via: <https://industry.eea.europa.eu/#/home>



Current legislation

Evaluations

European Green Deal

Circular Economy action plan

Zero-Pollution Action Plan

Climate Adaptation Strategy

Fit For 55

Biodiversity Strategy

Soil Strategy

Farm to fork

**Industrial Strategy for
Europe**

Resilience and Recovery Plan

- Contribute in the **most effective and efficient** way to protect the environment and health from the adverse effects of large agro-industrial installations.
- Stimulate a **deep agro-industrial transformation** towards zero pollution through the deployment of **breakthrough technologies**, and contribute to the achievement of the overall objectives in the EU of reaching carbon neutrality, a non-toxic environment and a circular economy.
- Further contribute to establishing a **level playing field at a high level of protection** of health and the environment.
- **Modernise** and **simplify** the current legislation
- Improve **access to information and justice**, and increase **public participation** in decision-making.

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2. Impact assessment approach & methodology

Confirm Drivers

Explore Problems

Determine objectives

Test + get feedback on preliminary policy options

How?

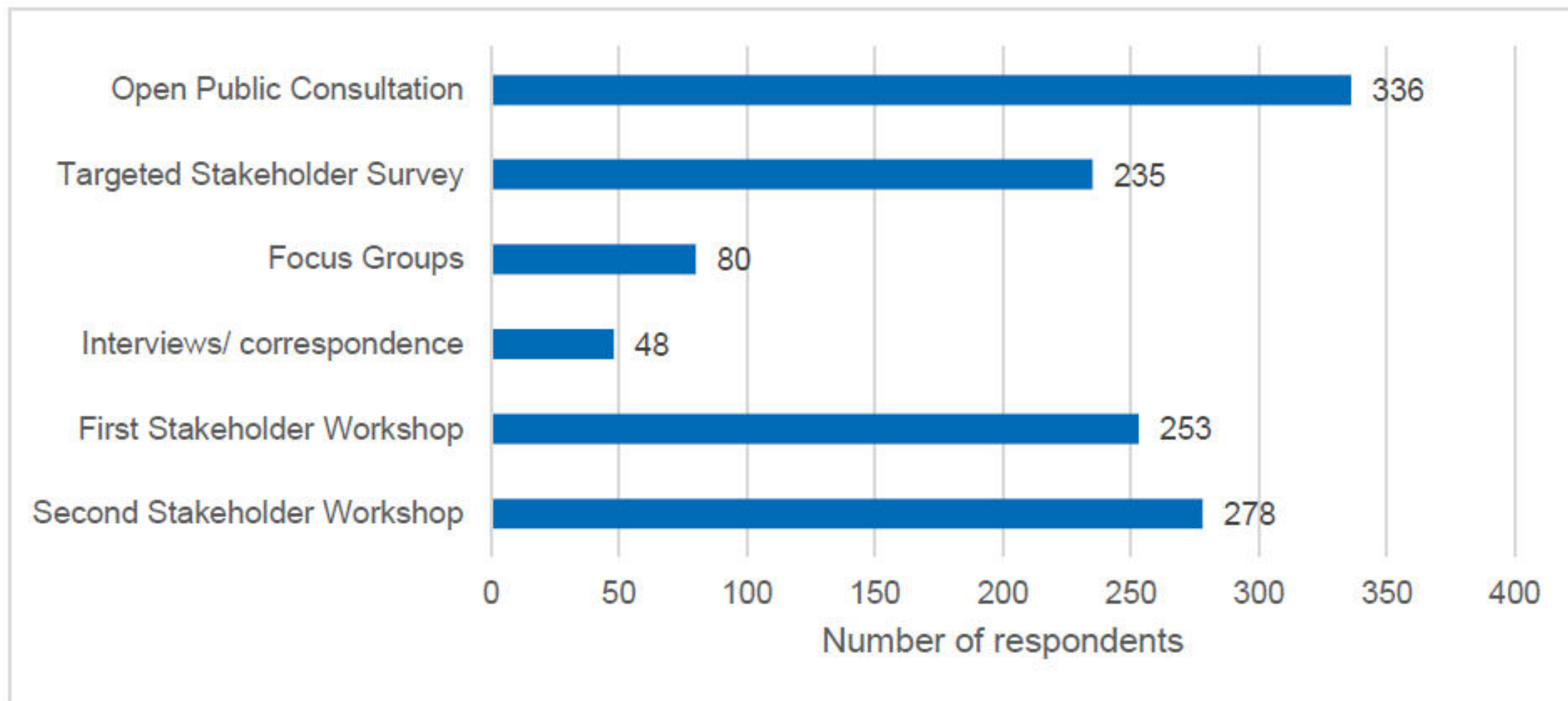
- Starting point – IED & E-PRTR evaluations (+ subsequent implementation work)

Impact Assessment Process (iterative): IED & E-PRTR – consultations/ “ingredients”

- Inception Impact Assessments (March – April 2020)
- Initial internal consultations => combined approach to assessing IED + E-PRTR (mostly)
- Consultations with all stakeholders
 - Open Public Consultation (Dec 2020 – March 2021) [**Joint IED + E-PRTR**]
 - Targeted Stakeholder Surveys (Q1 – Q2 2021) [separately IED + E-PRTR]
- Baseline determination (taking into account Fit For 55) – internal Commission + consultants
- Specific assessment topics, including consultations with MS (e.g., livestock)
- Presentation/ discussion of assessment scope & methods, interim results:
 - Stakeholder Workshops **1** (Dec 2020) + **2** (July 2021)

Building on the findings of the evaluations of E-PRTR (2017) + IED (2020)

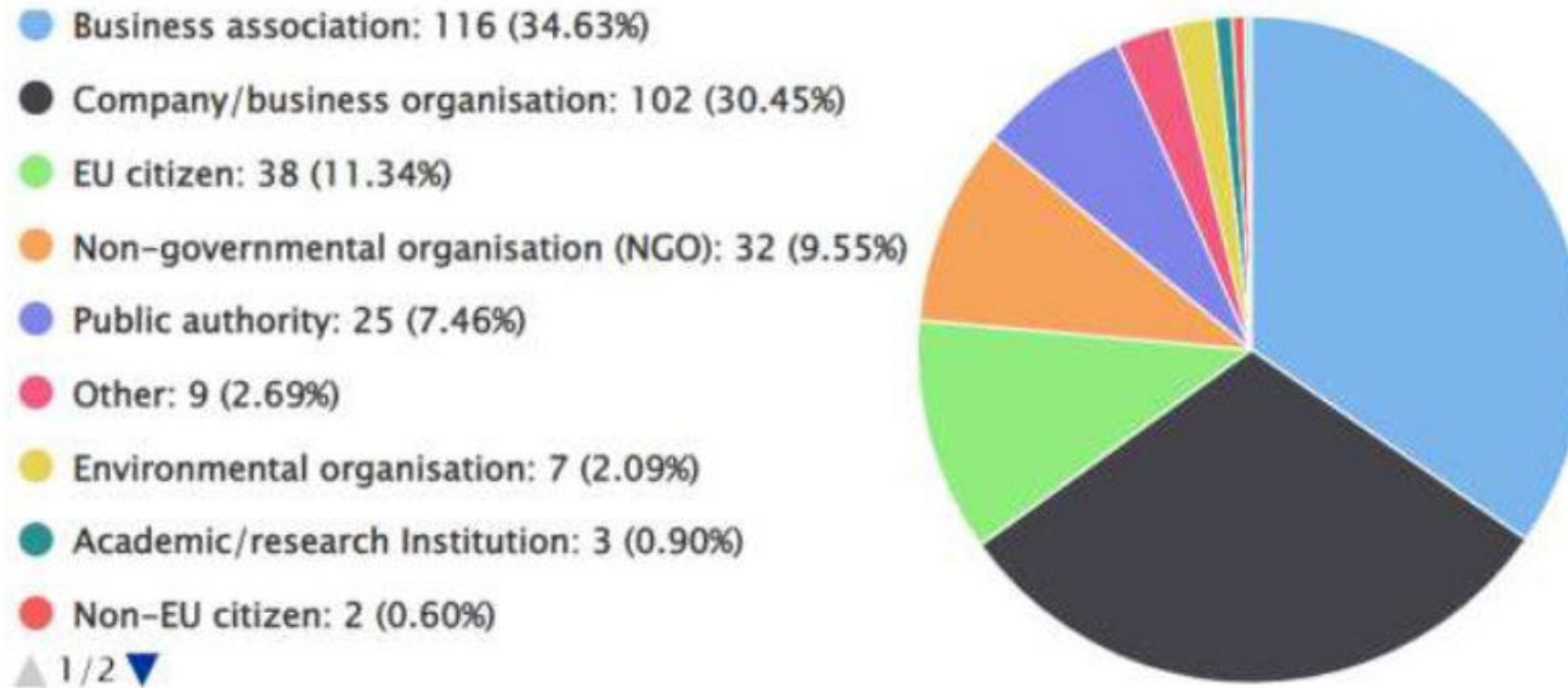
2. Impact assessment – Participants (numbers)



2. Consultations – Participants: who? c. 600 contacts in databases (IED, E-PRTR, Critical Raw Materials)

Stakeholder Group	Stakeholders
1. Public authorities within EU Member States	<ul style="list-style-type: none">• National level Member State Authorities• Regional/ local Member State Authorities
2. Industry	<ul style="list-style-type: none">• Key industries involved in the IED• Business and trade associations for sectors under the scope of the IED• Individual operators of large (agro-)industrial plants• Technology providers
3. Other	<ul style="list-style-type: none">• Environmental NGOs, specifically the European Environment Bureau• The general public/ private individuals• Workers associations/ trade unions• Existing IED platforms, including the Industrial Emissions Expert Group (IEEG), the IED Article 13 Forum and IED Article 75 Committee• Commission and other EU services and expert groups/networks, such as JRC, EEA• Technical experts, academics and research institutes• Third parties and countries with links to the IED

2. Consultations – businesses heavily represented (65%)



IED Public Consultation – 336 total respondents

2. Impact assessment – Consultations ctd.

➤ **Interviews/emails** (June – Sept 2021) - IED + E-PRTR:

- OPC and TSS findings separately complemented by follow-up
- To obtain additional feedback & fill data gaps

➤ **IED – 7 Focus Groups** (June – July 2021), to explore in greater depth:

- 3 Focus Groups on sectoral case studies – to enrich picture of data collected:
(steel, oil & gas refining, cement)
- 4 Focus Groups on scope/ new approaches: livestock scope widening & proposed lighter permitting, enhanced use of Environmental Management Systems/CMS, role of Transformation Plans, innovation mechanisms & INCITE

Key reference studies – CIRCABC IED Library



The screenshot displays the CIRCABC IED Library interface. The browser address bar shows the URL: circabc.europa.eu/ui/group/06f33a94-9829-4eee-b187-21bb783a0fbf/library/36379180-c0a6-4b66-9019-64a5a0229116?p=1&n=10&sort=modified_DESC. The page features a sidebar with navigation links: Apps, GAINS Model - IIASA, ENV C4 Sharepoint, IED revision - All D..., IED revision - ENV F..., and ALL ENV - IED and... A 'Reading list' button is also visible. The main content area lists ten studies, each with a checkbox, a document icon, a title, a star icon, a date and time, and the author's name. The studies are sorted by modification date in descending order.

Checkbox	Document Icon	Title	Star	Date and Time	Author
<input type="checkbox"/>		2021 – Impact of the biogas plants and of gasification, liquefaction and pyrolysis of wastes on the environment	☆	2022 03 22, 11:15	Michal CHEDOZKO
<input type="checkbox"/>		2021 Assessment - Intensive Agriculture and IED	☆	2021 07 05, 17:36	Michal CHEDOZKO
<input type="checkbox"/>		2021 Monitoring and compliance assessment	☆	2021 06 15, 12:28	Kim DAUPHIN
<input type="checkbox"/>		2021 - Assignment 6 - Possible subsumption of the Stage I Petrol Vapour Recovery directive into the IED	☆	2021 06 15, 11:39	Alex RADWAY
<input type="checkbox"/>		Assessment - Intensive Agriculture and IED 2021	☆	2021 06 15, 11:32	Alex RADWAY
<input type="checkbox"/>		2020 – Online real-time monitoring of industrial emissions	☆	2021 03 10, 12:31	Ruta BAKANAITE
<input type="checkbox"/>		2021 - Wider environmental impacts of industry decarbonisation	☆	2021 03 03, 10:16	Benoit ZERGER
<input type="checkbox"/>		2021 - IED Implementation Reports for 2017 and 2018	☆	2021 03 02, 18:13	Alex RADWAY
<input type="checkbox"/>		2020 - IED implementation support 2018-2020	☆	2020 12 15, 15:40	Ruta BAKANAITE
<input type="checkbox"/>		2020 - IED implementation support 2020 - 2024	☆	2020 12 15, 15:31	Ruta BAKANAITE

Impact assessment support report (CIRCABC)

Library • IED Review & Impact Assessment • Impact Assessment support studies

This folder is publicly available. [Details](#)

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<input type="checkbox"/>	Name / Title	Last modification ↓	Version	Size	Expiration date
<input type="checkbox"/>	IED IA Final Report.pdf IED IA Final Report.pdf	2022 04 29, 17:44	1.0	3.40 MB	-
<input type="checkbox"/>	IED IA Interim Annex 6_TSS_questionnaire.pdf IED IA Interim Annex 6_TSS_questionnaire.pdf	2022 04 29, 17:40	1.0	471.84 KB	-
<input type="checkbox"/>	IED IA Interim Annex 5_OPC_questionnaire.pdf IED IA Interim Annex 5_OPC_questionnaire.pdf	2022 04 29, 17:36	1.0	455.64 KB	-
<input type="checkbox"/>	IED IA Final Report Annex 10 .pdf IED IA Final Report Annex 10 .pdf	2022 04 29, 17:36	1.0	7.04 MB	-
<input type="checkbox"/>	IED IA Final Report Annex 4 .pdf IED IA Final Report Annex 4 .pdf	2022 04 29, 17:36	1.0	24.36 MB	-
<input type="checkbox"/>	IED IA Final Report Annex 3 .pdf IED IA Final Report Annex 3 .pdf	2022 04 29, 17:36	1.0	14.55 MB	-
<input type="checkbox"/>	IED IA Final Report Annexes .pdf IED IA Final Report Annexes .pdf	2022 04 29, 17:36	1.0	2.74 MB	-

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2.IED Evaluation (09.2020) – main lessons learned

- IED has played an **important role** in **reducing emission of pollutants from industry, especially to air**, but has made a *more limited contribution* to decarbonisation and the circular economy
- A **major IED success** is its **governance model**, which is based on close cooperation and co-creation of environmental standards with Member States, the industry concerned and environmental NGOs (**“Sevilla Process”**)
- **Ways to improve this legislation include:**
 - widening its scope
 - improving key provisions on the permitting and control of industrial plants
 - improving provisions on public information and participation in decision-making

5 key problems identified

1

The IED and E-PRTR are not as effective as they could be, in terms of ensuring reduced pollutant emissions from industry, to the benefit of public health and biodiversity, public access to information and participation and coherence in implementation

2

The IED and E-PRTR are not dynamic enough and do not sufficiently support the rapid deployment of innovative technologies

3

The IED and E-PRTR do not sufficiently promote the use of safer chemicals or chemical alternatives, resource efficiency or the Circular Economy

4

The IED and E-PRTR's contribution to reducing emissions of GHG lacks coherence and is limited

5

The IED and E-PRTR do not regulate some highly polluting agro-industrial sectors

Baseline – main assumptions (see SWD IA, Sn 5.1 – more detail: Annex 5)

- **Problems will remain** regarding implementation of the IED & E-PRTR identified in the two evaluations, with their evolution subject to:
 - Market/technology developments
 - Commission attempts to promote effective implementation & MS/operators' responses, e.g. issuing guidance documents, platforms for discussions/exchange on implementation
- Present ~**52k** installations → **65k** gradual increase by 2040 (subject to possible consolidation & other changes due to green transition)
- **Substances** for which emissions (“releases” in E-PRTR) are reported:
 - Trend would be for significance of E-PRTR's 91 pollutants to become outdated
 - Lack of coherence/ divergence over time regarding REACH

Baseline – ctd

- IED's influence on reducing emission of pollutants over time:
 - **BREF cycle** – continues at 9-12 years pace of renewal
 - **First BREF cycle**: trend shows 35%-70% reduction in pollutants, then subject to subsequent implementation re. tightening/ updating of permits by MS
 - **No** step-change scope extension
 - **No** link to/synergies with decarbonisation, nor 2030-2050 readiness planning
- **Fit for 55** elements taken into account from Impact Assessments, using common modelling data – e.g. GAINS Model to 2050
 - => indicated repercussions & trade-offs between technologies and pollutant emissions, depending on e.g. hydrogen fuel take-up

Baseline – ctd: Example - Modelled NO_x emissions

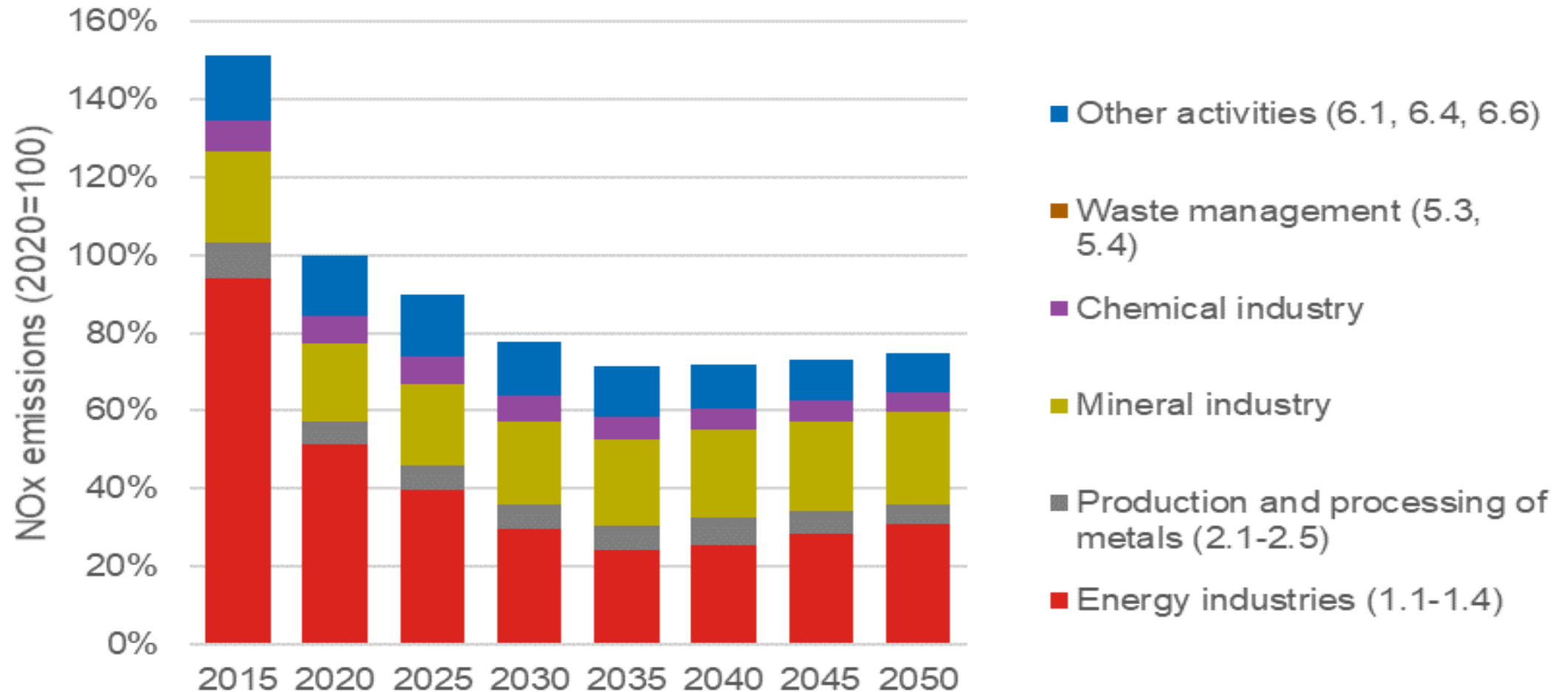


Figure 3: MIX scenario NO_x emissions projected by the GAINS model to 2050 (Source: GAINS)

Baseline – IED: depollution-decarbonisation and IED BAT/ GHG reduction - ETS nexus

1. A number of novel decarbonisation techniques will allow reduction of BOTH GHG and overall pollutant emissions, but without adequate mechanisms Best Available Techniques (BAT) tend to remain defined without synergies
2. Novel decarbonisation techniques may not all be win-win. Depollution < - > decarbonisation trade-offs, incl. need for rapid BAT redefinition
3. CCS/CCU – likely to become important, requiring BAT (possible issues: potential GHG leakage, impact on groundwater)
4. Sectors where profound modification may occur => BAT changes re. novel processes/pollution control techniques
5. BAT conclusions vis-à-vis full/step-change/deep transformations, e.g. where use of fossil fuels in process is no longer BAT


Policy measures – Screening (more detail: Annex 4)

- **Screening** (see Annex 4, SWD) - developed re. IA Better Regulation. “Longlist” of measures rated against 8 criteria: legal feasibility, technical feasibility, stakeholder acceptability, effectiveness, efficiency, proportionality, EU value added and coherence
- Performed in partnership with different consultancy and EC experts per Policy Area. Consistency checks re. rating carried out centrally and iteratively
- **Result: Over 200** potential measures reduced (screened out) to **73** measures
- **These 73 measures were retained for qualitative/ quantitative impact assessment:** 43 concern IED, & 30 related to E-PRTR
- Groups of measures -> Policy Options (“packaging”, with alternatives)

Data & Impact Assessment - quantitative/qualitative (1) –

see also Sn 6 SWD & Annex 10 – Key info. summaries

- Most individual measures considered -> **improving existing processes**, e.g.:
 - (re-)drafting of BREFs and BAT conclusions
 - issuing of permits to installations
- Remaining measures *introduce new processes*, e.g.:
 - **INCITE** re. emerging innovative techniques + depollution/decarbonisation
 - Measures addressing **resource efficiency**

 Ultimate impacts of measures & related sub-options depend on sequences of successive processes and events that may vary significantly

- NB IED already (current directive) has a proportionate approach e.g.:
 - BAT defined being environmentally & commercially effective & proven
 - Derogations in permits where application of EU-wide BAT would lead to disproportionate costs

Data & Impact Assessment - quantitative/qualitative (2)

- 2 elements of great importance:
 - Levels of ambition of BAT requirements
 - Degree to which BAT is implemented effectively at site level by industry sectors & permit authorities in MS (taking local & specific circumstances of installations into account)



Majority of the measures considered do **not** lend themselves to **quantitative** assessment of economic, environmental and social impacts

- Impact assessment in most cases is **qualitative**, seeking to identify type of potential impacts & rate their magnitude on a comparative scale

Data & Impact Assessment - Quantitative/ qualitative (3)

Qualitative Coding used to present expected impacts

xxxxx xxxxx	xxxxx	x	0	✓	✓✓✓✓✓	✓✓✓✓✓ ✓✓✓✓✓	U
Extremely negative	Strongly Negative	Weakly negative	“Zero”: i.e. no or limited impact	Weakly positive	Strongly Positive	Extremely positive	“U”: Unclear

Quantitative

- Illustrative assessment of impacts of using the full BAT range of emissions
- Livestock – detailed most up-to-date modelling information obtained & used
- Number of installations in activities considered for scope inclusion
- Administrative burden – for businesses and Competent Authorities

Existing legislation with identified shortcomings and problems and the European Green Deal mandate

PO1:

More effective legislation
(cross-cutting measures)

PO2:

Supporting innovation

PO3:

Contributing to a non-toxic
and resource efficient
circular economy

PO4:

Supporting decarbonisation
of industry

PO5: Scope extensions – other options retained affect also sectors added to the legislation's scope

Drivers	Problems	Specific objectives	Overview of the policy options and sub-options
<p>Delivery shortcomings Flexibilities allowed in setting permit conditions and granting derogations</p> <p>Information & access to justice shortcomings MS are under-informing the public and IED does not require public participation in all relevant permit reviews</p> <p>Coherence shortcomings Legal framework not fully coherent, which has led to differences in implementation within and between MS</p>	<p>The IED and E-PRTR are not as effective as they could be, in terms of ensuring reduced pollutant emissions from industry, to the benefit of public health and biodiversity, public access to information and participation, and coherence in implementation</p>	<p>1. Improve IED effectiveness to prevent/minimise emission of pollutants by agro-industrial installations at source, as evidenced by continued or accelerated decreasing trends of emission intensity, to avoid or reduce adverse impacts on health and the environment, taking into account the state of environment in the area affected by these emissions.</p> <p>2. Ensure access of private individuals and civil society to information, participation in decision-making, and access to justice (including effective redress) in relation to permitting, operation and control of the regulated installations, resulting in increased civil society action.</p> <p>3. Clarify and simplify the legislation and reduce administrative burden whilst promoting consistency of implementation by the Member States.</p>	<p>PO1 groups 24 individual measures, into the following 4 policy sub-options addressing the action needed to resolve a variety of effectiveness issues across the two pieces of legislation:</p> <p>PO1-a: Achieving BAT-AELs – 2 alternatives PO1-b: Improving implementation and enforcement PO1-c: Enhancement of public rights – 2 alternatives PO1-d: Simplification of IED and E-PRTR</p>
<p>Innovation shortcomings The static character (and backwards-looking nature) of the BREF process restricts innovation</p>	<p>The IED and E-PRTR are not dynamic enough and do not sufficiently support the rapid deployment of innovative technologies</p>	<p>4. Promote the uptake of innovative technologies and techniques during the ongoing industrial transformation, by revising BREFs without delay when there is evidence that better performing innovative techniques become available, and ensuring permits support frontrunners.</p>	<p>PO2-a: frontrunners PO2-b: stimulate innovation - 2 alternatives PO2-c: supporting transformation - 3 alternatives</p>
<p>Chemicals, RE and CE Shortcomings Ongoing overuse of avoidable hazardous substances and lack of prioritisation of RE and CE</p>	<p>The IED and E-PRTR do not sufficiently promote the use of safer chemicals or chemical alternatives, resource efficiency or the CE</p>	<p>5. Contribute to the transition towards the use of safer and less toxic chemicals, improved resource efficiency (energy, water and waste prevention) and greater circularity.</p>	<p>PO3-a: Performance levels and benchmarks – 2 alternatives PO3-b: EMS PO3-c: National industrial symbiosis plans PO3-d: Reporting of resource use PO3-e: Reporting waste transfers in more details PO3-f: Reporting on releases from products</p>
<p>GHG shortcomings Legal design & implementation have not prioritised GHG and lack coherence</p>	<p>The IED and E-PRTR's contribution to reducing emissions of GHG lacks coherence and is limited</p>	<p>6. Support decarbonisation by fostering the uptake and investments in techniques synergistically, jointly preventing/reducing pollution and carbon emissions, as evidenced by a coupling of the trends of emission intensities.</p>	<p>PO4-a: Mandatory BAT on energy efficiency PO4-b: Interface with ETS – 3 alternatives PO4-c: Disaggregation of reported emissions of GHG PO4-d: Reporting of GHG as CO2 equivalent</p>
<p>Scope shortcomings Certain polluting agro-industrial activities are not covered</p>	<p>The IED and E-PRTR do not regulate some highly polluting agro-industrial sectors</p>	<p>7. Address the harmful impacts on health and environment from agro-industrial activities currently not regulated by the IED, as evidenced by decreasing trends of emission intensity.</p>	<p>PO5-a: Intensive livestock production & tailored permit PO5-b: Extension in current sectors PO5-c: Landfills PO5-d: Mining PO5-e: Aquaculture PO5-f: Upstream Oil & Gas PO5-g: Align E-PRTR to IED PO5-h: Align E-PRTR to MCPD and UWWTPD – 2 alternatives PO5-i: Dynamic updating of sectoral scope</p>

List of annexes – “reader’s guide”

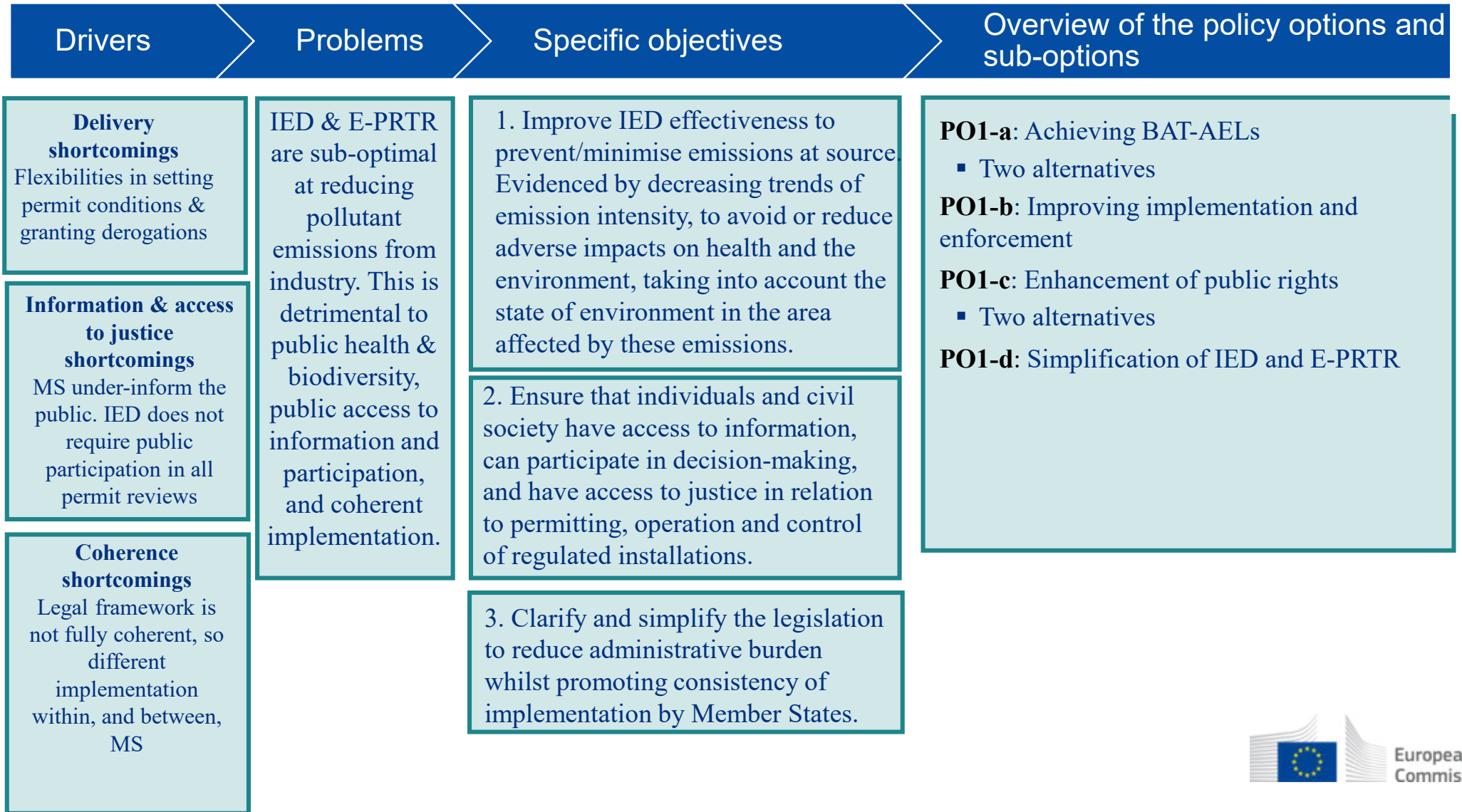
- **Annex 10** – Key supporting info to SWD Impacts of Policy Options (Sn. 6)
 - Annex 8 – Impacts of IED shortlisted measures (detailed reference document)
 - Annex 9 – Impacts of E-PRTR shortlisted measures (detailed reference document)
- **Annex 6** – Problems & drivers & **Annex 7** - Definition of options
- Annex 4 – Analytical methods used/ Annex 2 stakeholder consultation/
Annexes 12/ 13 Screening methodology + Listing of screened out measures
- Annex 11 – Sector Transformation case studies
- **Annexes 14, 15, 16** – Descriptions of instruments & mapping re. other EU legislation

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3.1 Effectiveness

PO1 groups 24 measures (16 for IED, 8 for E-PRTR), into 4 policy sub-options.



Definition of options on more effective legislation

PO1-a-achieving BAT-AELs (IED – 5 measures):

- Alt.1 ***clarify flexibilities***: Clarify rules on derogations, indirect releases to water and considering environmental quality standards. Ensure transparent monitoring of air and water quality impacts.
- Alt. 2 ***full BAT potential***: Alternative 1 ***AND*** require full BAT-AEL range to be considered when setting permit ELVs.

PO1-b-implementation and enforcement (IED – 4 measures): Empower competent authorities to suspend operation of non-compliant plants, harmonise rules to assess permit compliance, more stringent penalties, and improve transboundary cooperation in permitting.

PO1-c-rights of the public (IED 4 measures and E-PRTR 4 measures):

- Alt. 1 ***public rights***: Improve public access to information, participation and access to justice (including effective redress) by making clear permit summaries publicly and digitally available and requiring systematic public participation in permit reviews.
- Alt. 2 ***enhanced public rights***: Alternative 1 ***AND*** more granular reporting of E-PRTR releases.

PO1-d-simplification (IED 3 measures and E-PRTR 4 measures): clarify certain definitions and activity descriptions, delete the indicative list of pollutants in Annex II, IED Chapter II compliance assessment rules to take precedence over rules in other chapters, and top-down reporting for livestock farms / aquaculture.

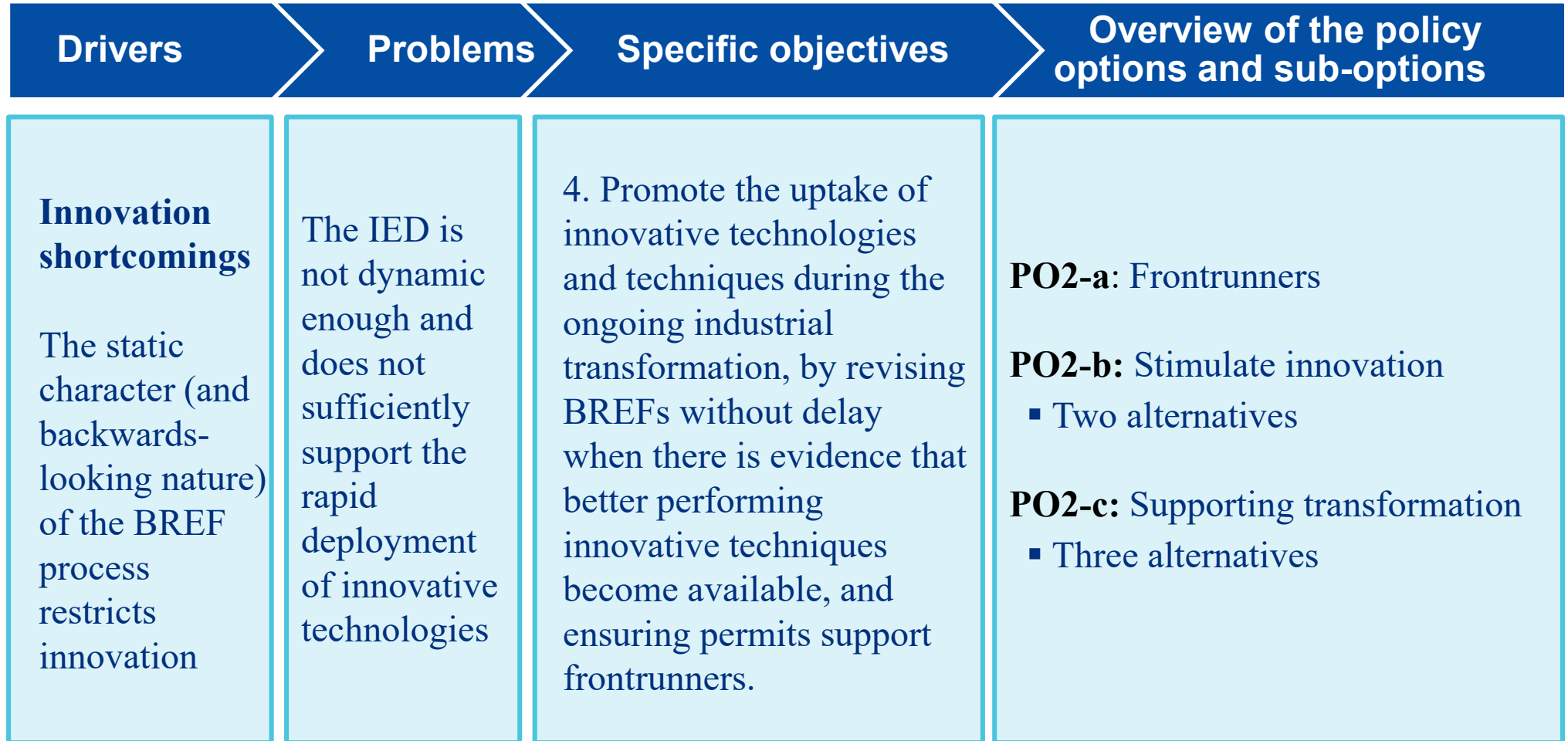
Policy option on effectiveness	Main impacts		
	Econ.	Env.	Social
PO1-a-achieving BAT-AELs <i>Alt.1 clarify flexibilities</i>	x	✓✓	O
PO1-a-achieving BAT-AELs <i>Alt.2 full BAT potential</i>	xx	✓✓✓✓	O
PO1-b-implementation and enforcement	x	✓✓	x
PO1-c-rights of the public <i>Alt.1 public rights</i>	x	✓	O
PO1-c-rights of the public <i>Alt.2 enhanced public rights</i>	x	✓	O
PO1-d-simplification	✓	O/✓	O

Policy options for improving effectiveness - **discarded** and retained (bold)

PO1-a-achieving BAT-AELs <i>Sub-option clarify flexibilities (discarded)</i> Alternative full BAT potential	<p>Clarifies the limits of flexibilities to ensure more consistent implementation by Member States.</p> <p>Sub-option <i>full BAT potential</i> implements better the polluter pays principle than sub-option <i>clarify flexibilities</i>, resulting in significantly higher environmental and health benefits, in line with the recommendations of the European Court of Auditors.</p> <p>Contributes to levelling the playing field at a high level of protection.</p>
PO1-b-implementation and enforcement	<p>Promotes better implementation and enforcement, also through better functioning, penalty and damage redress systems.</p>
PO1-c-rights of the public <i>Alternative public rights (discarded)</i> Alternative enhanced public rights	<p>Ensures compliance with, and better implementation of, the EU's international obligations under the Aarhus Convention and Kyiv Protocol.</p> <p>Ensures better coherence between the closely-related IED and E-PRTR Regulation than sub-option <i>public rights</i>.</p>
PO1-d-simplification	<p>Clarifies provisions that stakeholders have flagged as problematic.</p> <p>Reduces administrative burden, in particular for farms.</p>

3.2 Innovation

PO2 only concerns the IED. It comprises 6 individual measures which constitute 3 sub-options.



Definition of options on accelerating innovation

PO2-a-frontrunners:

Facilitate the development and testing of emerging techniques AND allow more time for implementing these more innovative technologies and techniques

PO2-b-stimulate innovation:

Alternative 1 *shorter BREFs cycle*: Establish shorter BREF revision cycles

Alternative 2 *INCITE*: Establish an INnovation Centre for Industrial Transformation & Emissions (INCITE) documenting innovation and recommending BREF revisions

PO2-c-supporting transformation:

Alternative 1 *time*: Allow more time to implement BATC if deep industrial transformation is required

Alternative 2 *plans/review*: Establish a permit review obligation and require transformation plans

Alternative 3 *plans/EMS*: Require transformation plans in the EMS

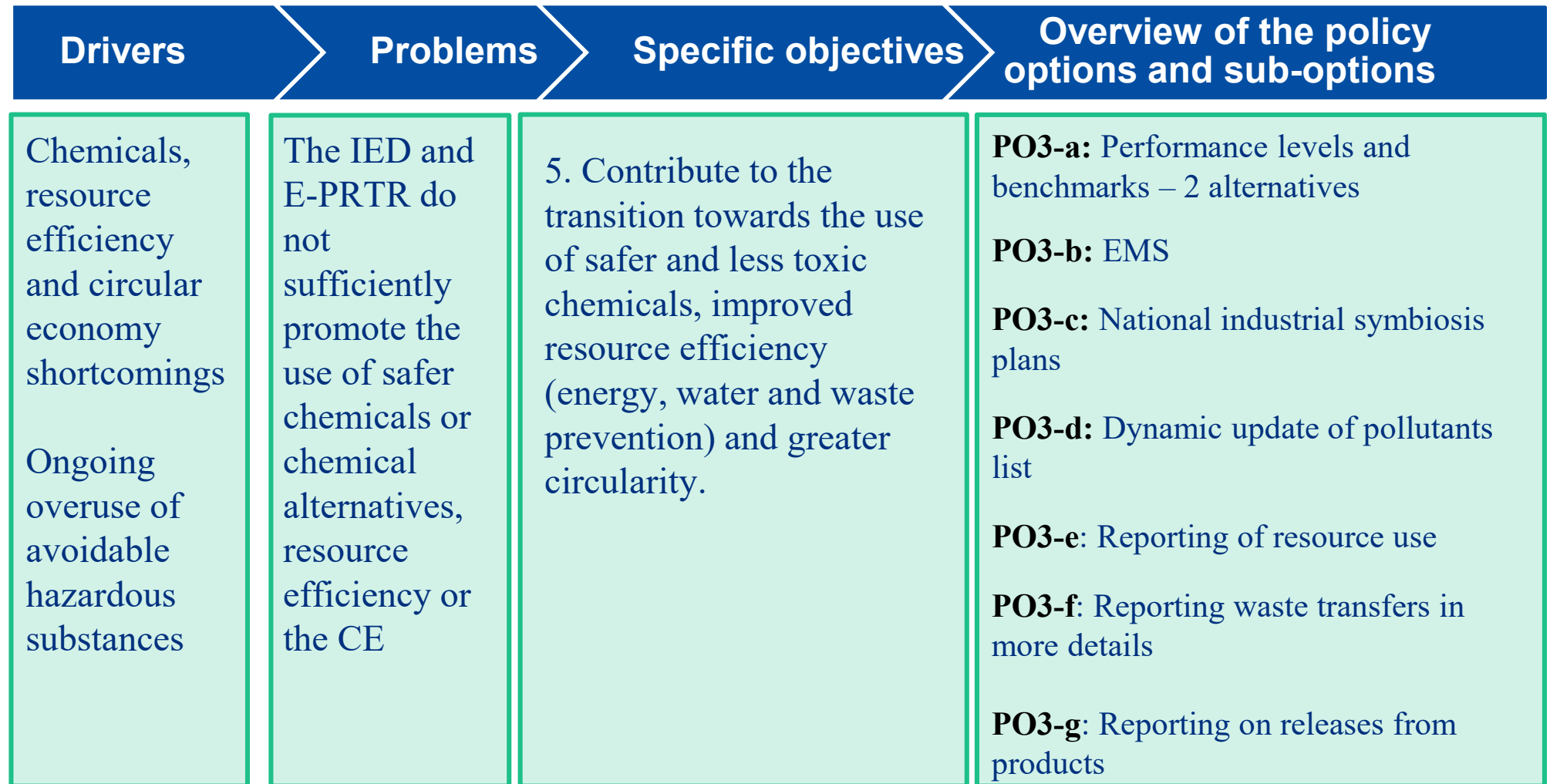
Policy option on accelerating innovation	Main impacts		
	Econ.	Env.	Social
PO2-a-frontrunners	x	✓✓	O/U
PO2-b-stimulate innovation Alt.1 <i>shorter BREF cycles</i>	x	✓	O/U
PO2-b-accelerate innovation Alt.2 <i>INCITE</i>	x	✓✓✓	O/✓
PO2-c-transformation Alt.1 <i>time</i>	x	✓	O/✓
PO2-c-transformation Alt.2 <i>plans/review</i>	xx	✓✓✓	O/✓
PO2-c-transformation Alt.3 <i>plans/EMS</i>	x	✓✓✓	O/✓

Policy options for supporting innovation **discarded** and retained (bold)

PO2-a-frontrunners	Lifts obstacles for testing and deploying more environmentally effective emerging techniques.
PO2-b-accelerate innovation <i>Alternative shorter BREF cycles (discarded)</i> Alternative INCITE	<p>Creates a permanent mechanism, <i>the INnovation Centre for Industrial Transformation & Emissions (INCITE)</i>, to monitor innovation and trigger the review of BREFs when emerging techniques reach a high level of maturity.</p> <p>By contrast, shorter BREF cycles would be costly and cumbersome to implement and would not be sufficiently flexible to adapt to the dynamics of innovation.</p>
PO2-c-supporting transformation <i>Alternative time (discarded)</i> <i>Alternative plans/review (discarded)</i> Alternative plans/EMS	<p>The vast majority of IED operators will need to fundamentally transform their installations in response to the challenge of global warming.</p> <p><i>Transformation plans</i> developed by 2030 meet this need and allow better predictability for operators and competent authorities.</p> <p>Introducing more time for transformation required by BAT conclusions would only concern a limited number of operators acting upon their publication.</p> <p>Under two alternatives for developing Transformation Plans, the less costly was chosen.</p>

3.3 Use of resources and chemicals

Policy option 3 comprises 12 individual measures grouped in 7 sub-options



Definition of options for a non-toxic and resource efficient circular economy

PO3-a-performance levels:

Alt. 1 ***binding***: BREFs include binding environmental performance levels (BAT-AEPLs)

Alt. 2 ***binding and benchmarks***: BREF may include both binding BAT-AEPLs and benchmarks for use in the operators' EMS

PO3-b-EMS: Resource Efficiency, Circular Economy and Chemicals Management addressed in the operator's EMS

PO3-c-symbiosis plans: National plans to promote industrial symbiosis

PO3-d-pollutants list : Dynamically updating the list of pollutants to be reported

PO3-e-report resource use: Require information to track progress in resource efficiency

PO3-f-tracking waste transfers : Better report waste transfers between installations

PO3-g-report on products : Report releases from products

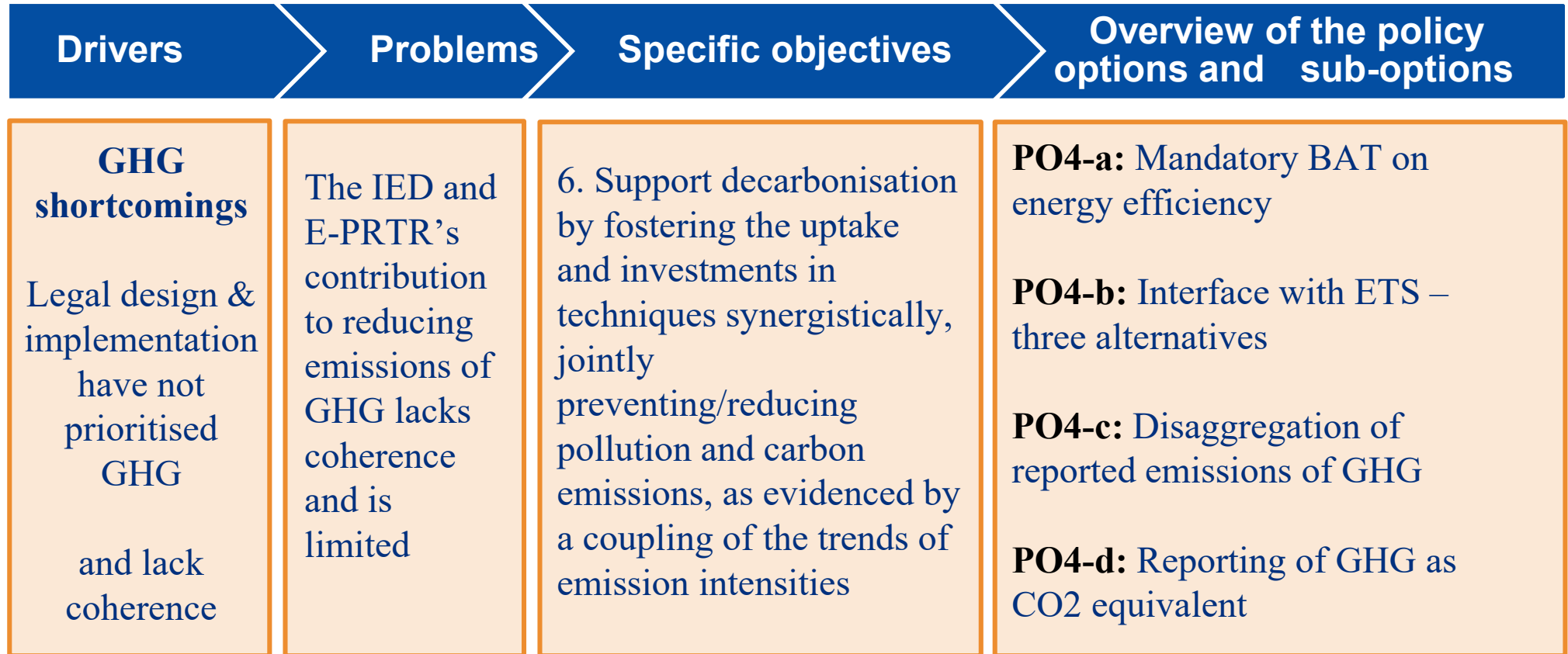
Policy Option on use of resources and chemicals	Main impacts		
	Econ.	Env.	Social
PO3-a-performance levels Alt. 1 <i>binding</i>	x	✓	O/U
PO3-a-performance levels Alt 2 <i>binding and benchmarks</i>	x	✓✓	O/ U
PO3-b-EMS	x	✓✓	O/U
PO3-c-national industrial symbiosis plans	U/x	U/✓	O/U
PO3-d-dynamically updating the list of pollutants to be reported	x	✓	O
PO3-e-reporting of resource use	x	✓	O
PO3-f-reporting waste transfers in more detail	xx	✓	O
PO3-g-reporting on releases from products	xx	✓	O

Options on use of resources and chemicals **discarded** and retained (**bold**)

PO3-a-performance levels	Binding levels fit for highly homogeneous processes across the EU Non-binding benchmarks take into account circumstances of individual installations, would be efficient if used in EMS
<i>Alt.1 binding(discarded)</i>	
<i>Alt.2 binding and benchmarks</i>	Both binding levels and non-binding benchmarks should be available in BREFs
PO3-b-EMS	Strengthening the IED EMS provides a means of implementation for BAT conclusions that require adaptation to the circumstances of individual installations
PO3-c-symbiosis plans (discarded)	Requires local action tailored to the specificities of businesses and markets Information included in BREFs may support local action (baseline)
PO3-d-pollutants list	Allows E-PRTR (IEPR) to take into account substances of emerging concern Enhances coherence of EU law (air, water, soil, chemicals)
PO3-e-report resource use	Enables the benchmarking of different industrial activities
PO3-f-tracking waste transfers (discarded)	Unlikely to provide reliable data Would have high administrative costs
PO3-g-report on products (discarded)	Not technically feasible Better addressed under the SPI

3.4 Supporting decarbonisation

Policy option 4 comprises 6 individual measures grouped into 4 sub-options



Definition of options for supporting decarbonisation

PO4-a-energy efficiency:

Delete Article 9(2) with exemptions from setting energy efficiency requirements in IED permits

PO4-b-IED/ETS interface:

Alt. 1 *review*: Plan a future review by 2028 to maximise coherence and synergies between the IED and the ETS in light of the dynamics of innovation

Alt. 2 *sunset*: Introduce a sunset date on Article 9(1)

Alt. 3 *delete*: Immediately delete Article 9(1)

PO4-c-disaggregated reporting:

Require more granular reporting for some GHG, in particular refrigerants

PO4-d- CO₂ eq. reporting (E-PRTR#19):

Require GHG releases to be also reported as CO₂ equivalent

4. Support decarbonisation

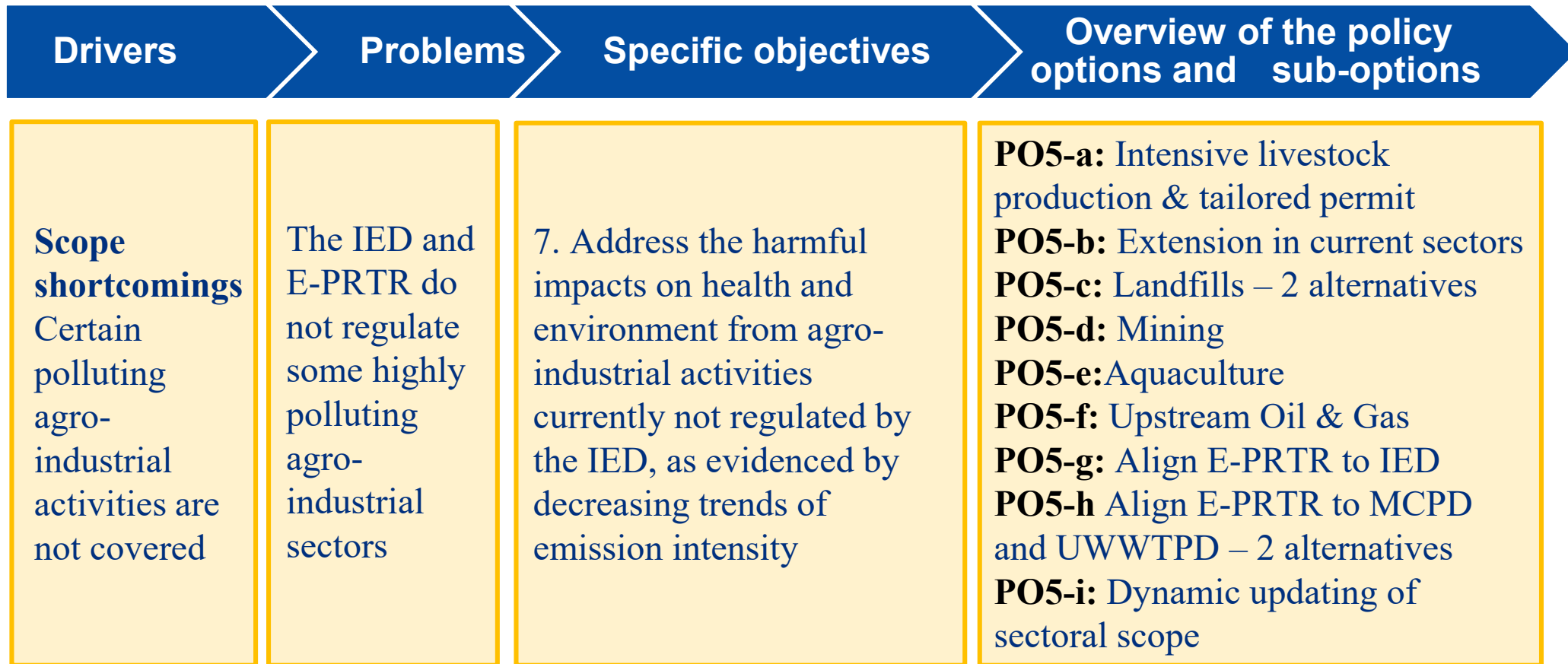
Policy option on supporting decarbonisation	Main impacts		
	Econ.	Env.	Social
PO4-a-energy efficiency	✗	✓✓	O/U
PO4-b-IED/ETS interface Alt. 1 <i>review</i>	O	O	O
PO4-b-IED/ETS interface Alt. 2 <i>sunset</i>	U/✗	U/✓	✓
PO4-b-IED/ETS interface Alt.3 <i>delete</i>	U/✗	U/✓	✓
PO4-c-disaggregation of reported GHG emissions	✗	✓	O
PO4-d-reporting of GHG as CO₂ equivalent	✗	O	O

Options on supporting decarbonisation of industry **discarded** and retained (bold)

PO4-a-energy efficiency	<p>Ends the situation where installations were subject to binding permit conditions on energy efficiency in some Member States, but not in others.</p> <p>Supports the Energy Efficiency Directive by ensuring that IED permitting authorities are mobilised to monitor implementation and enforce obligations.</p>
PO4-b-IED/ETS interface <i>Alt. review</i> <i>Alt. sunset (discarded)</i> <i>Alt. delete (discarded)</i>	<p>The impacts of <i>deleting</i> or putting a <i>sunset date</i> on Art. 9(1) of the IED are unclear and may negatively affect the EU ETS carbon market.</p> <p>The <i>review</i> is consistent with the FF55 ETS revisions proposal and will allow revisiting within this decade the coherence and potential for enhanced synergies between the IED and the ETS, in light of the dynamics of innovation.</p>
PO4-c-disaggregated reporting	Provides better and low cost information on pollutants such as CFCs that are currently reported as combined totals.
PO4-d-CO₂ eq. reporting (discarded)	This information can be derived at lower cost by calculations based on already reported data.

3.5 Scope

Policy option 5 comprises 25 individual measures grouped into the 9 sub-options



Definition of options amending the scope (1)

PO5-a-cattle and tailored permitting: Include cattle farms above a threshold within the range of 50-150 LSU, expand coverage to pigs and poultry farms above a threshold within the range of 50-150 LSU AND a tailored permitting process

PO5-b-expand existing IED activities: Extension of IED and E-PRTR current sectoral scope by closing loopholes for smaller smitheries, regulating the associated activities of textiles finishing, forging presses, cold rolling and wiredrawing; and better coverage of the battery value chain by including the rapidly growing batteries gigafactories

PO5-c-landfills: Landfills: Adoption of BAT conclusions for landfills OR adoption of BAT conclusions for activity 5.4 landfills AND revise the capacity threshold

PO5-d-mining: Include non-energy minerals extraction industry in the IED scope

PO5-e-aquaculture: Include aquaculture in the IED scope

PO5-f-oil and gas : Include upstream oil and gas extraction in the IED scope

Definition of options regarding amending the scope (2)

PO5-g-align E-PRTR to IED:

Align E-PRTR activity descriptions to IED activity descriptions

PO5-h-align E-PRTR to other EU laws:

Alt.1 *fully*: Revise E-PRTR activity descriptions by aligning to the Medium Combustion Plants Directive (MCPD) AND the Urban Waste Water Treatment Directive (UWWTD)

Alt.2 *partially*: expand the E-PRTR scope to cover (MCPs between 20 and 50 MW AND UWWTPs between 20 000 and 100 000 person equivalents

PO5-i-watch mechanism:

Establish a dynamic system to identify and include emerging activities/sectors of concern, according to significance of production and attendant (already occurring, or risk of) pollutant emissions, and the IED's potential to address these issues

PO5: Scope – activities and number of installations

Sector	Sub-sector / Activity	Number of installations – EU27		
		Current IED scope	Additional - revised IED scope	Total - revised IED scope
Other activities – Intensive livestock	Rearing of cattle (NEW)	0	84 000	84 000
	Rearing of poultry	c. 10 000	39 700	c. 50 000
	Rearing of pigs	c. 10 000	37 400	c. 47 000
Other activities – Battery production (NEW)	Production of battery cells and assembling into battery packs – text to be agreed	0	c. 20-25 by 2030 c. 45-95 by 2040	20-95
Metals - Processing of ferrous metals	Forging presses, cold rolling with capacity exceeding 10 t/h, and wire drawing with capacity exceeding 2 t/h	800	250-400	1 050-1 200
	Smitheries of 20 kilojoule per hammer where the calorific power used exceeds 5 MW	215 (activity 2.3(b))	400-500	415-515
Other activities – Textile industry	Textile finishing activities	275 (activity 6.2)	50-100	325-375
Other activities – Extractive industries (NEW)	Extraction and treatment of non-energy minerals (industrial minerals and metalliferous ores) – text to be agreed	0	800-900 (out of a total of c. 25k+ EU mining and quarrying sites)	800-900

Policy option on amending the scope	Main impacts		
	Econ.	Env.	Social
PO5-a-livestock production & tailored permit	xxx	✓✓✓✓✓✓	x
PO5-b-extension in current sectors	x	✓✓	O
PO5-c-landfills	x	✓✓	O
PO5-d-mining	xx	✓✓✓	O
PO5-e-aquaculture	x/U	✓/U	O/x
PO5-f-upstream Oil & Gas	xx	U/✓	O/x
PO5-g-align E-PRTR to IED	x	✓	O
PO5-h-align E-PRTR to MCPD and UWWTD Alt.1 <i>full alignment</i>	x	✓	O
PO5-h-align E-PRTR to MCPD and UWWTD Alt.2 <i>partial alignment</i>	x	✓	O
PO5-i-dynamic updating of sectoral scope	U/xx	U/✓✓✓	U/x

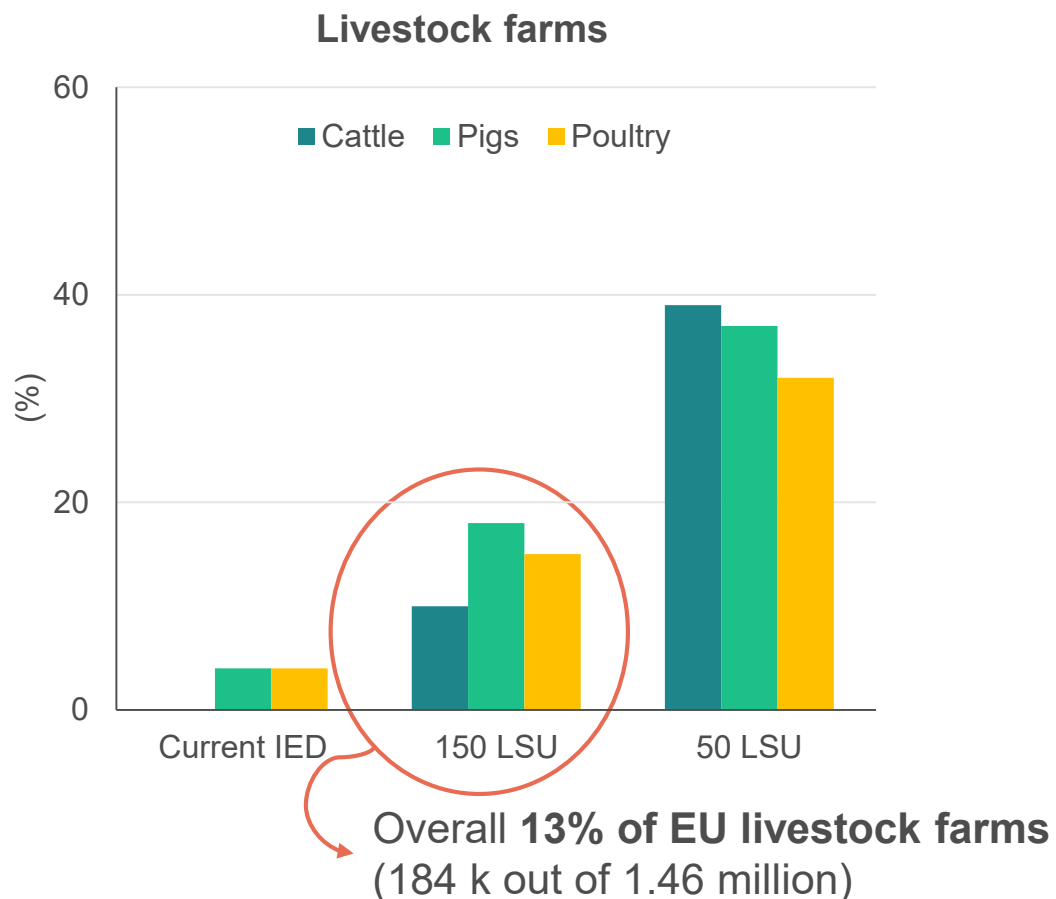
Options amending the scope **discarded** and retained (bold) (1)

PO5-a-cattle and tailored permitting	Key sector retained for scope extension. Will cover the 13% of the largest cattle, pigs and poultry farms. See separate slide.
PO5-b-expand existing IED activities	Closes loopholes in sectors and activities already covered by the IED where sub-activities with high pollution potential were not covered, e.g. textile finishing. Addresses the environmental impacts of rapidly growing batteries gigafactories.
PO5-c-landfills <i>Alt.1 BAT conclusions</i> <i>Alt.2 cover smaller landfills (discarded)</i>	Enables updating BAT requirements dating from the 1990's, e.g. regarding methane emissions. IED already covers the vast majority of landfills; covering smaller landfills would not be efficient.
PO5-d-mining	The most polluting non-energy mineral extraction activities (metallic and industrial minerals) are retained for scope extension. See separate slide.
PO5-e-aquaculture (discarded)	Mainly comprised of micro-enterprises. Though nutrient loading is an important pressure that could be addressed by the IED, use of pharmaceuticals, invasive species, antibiotic resistance, biodiversity, are not typically regulated by the IED
PO5-f-oil and gas (discarded)	Methane is by far the main emission from these activities, which is addressed under a separate initiative.

Options amending the scope **discarded** and retained (bold) (2)

PO5-g-align E-PRTR to IED	Ensures that reporting under E-PRTR takes place for all IED installations, thereby enhancing coherence between the instruments.
PO5-h-align E-PRTR to other law <i>Alt.1 full alignment (discarded)</i> <i>Alt.2 partial alignment</i>	<p>E-PRTR is a useful instrument to establish reporting synergies with other EU law, in particular with the MCP Directive and the UWWTP Directive.</p> <p>Full alignment of scope would however require reporting by numerous SMEs. Partial alignment ensures proportionality of the measure.</p>
PO5-i-watch mechanism	Organises ongoing monitoring of emerging concerns related to emissions from agro-industrial installations and inclusion of relevant activities within the scope of the IED and/or the E-PRTR, through delegated powers, based on clear criteria and full assessment of impacts.

PO5-a: Livestock production & tailored permit



- A **lighter permitting regime** will apply, proportional to the lower complexity and lower risks of farms compared to industrial installations

*Coverage of methane and ammonia emissions
(% of livestock sector per animal type)*

	Cattle	Pigs	Poultry*
Current IED	0	35	35
150 LSU	41	81	86
50 LSU	80	95	97

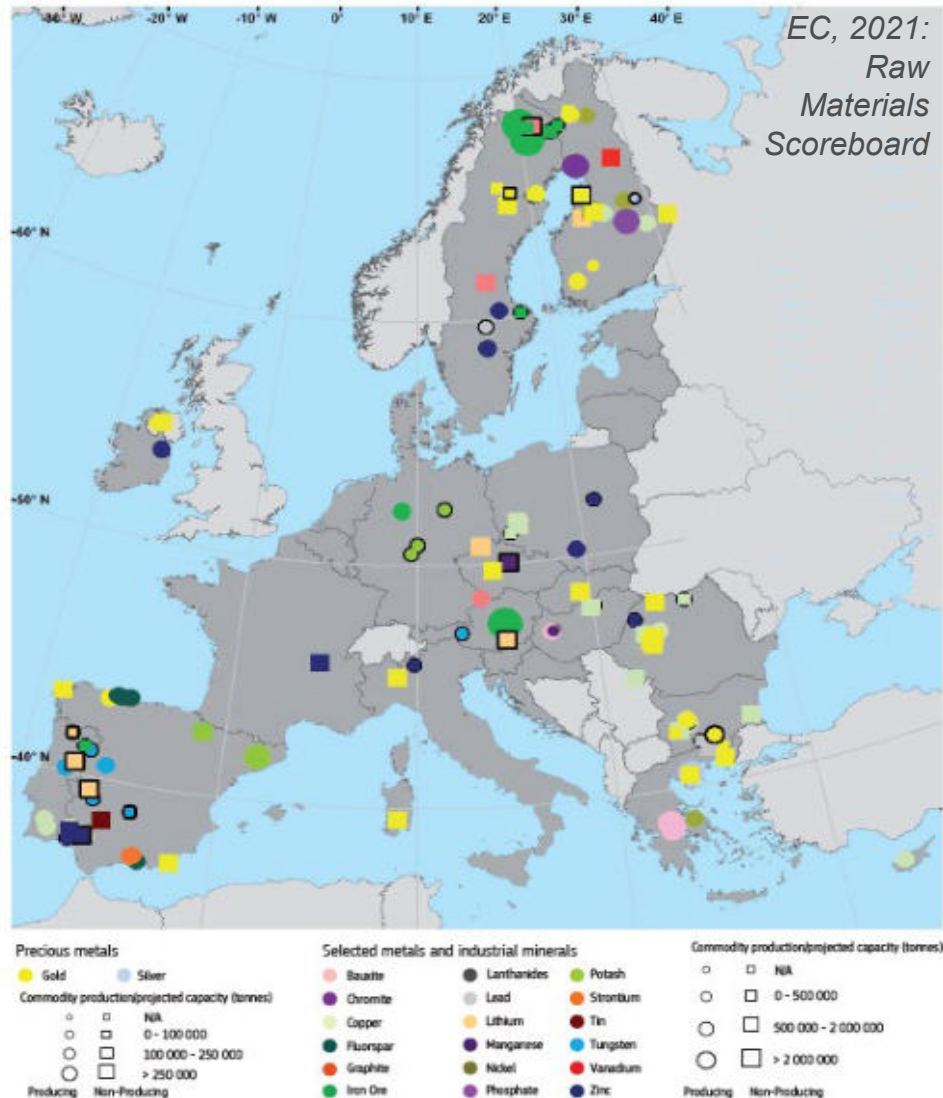
** Ammonia emissions only*

Thresholds range assessed: 50 to 750 LSU. For 150 LSU:

- **Health benefits** costed at more than € 5.5 bn per year – conservative estimates:
 - NH₃ reductions: 12% cattle, 7% pigs, 20% poultry
 - CH₄ reductions: >8% cattle, 37% pigs
- The **benefit-cost ratio is 11** (14 for cattle, 8 for pigs and 9 for poultry)

PO5-d: Minerals extraction activities (non-energy)

Metals, rare earth metals and industrial minerals



- We expect expansion and opening of mines in the EU: global estimates refer to a need for a four to six fold increase of graphite, lithium and cobalt mining over the next couple of decades.
- The **IED's proven governance mechanisms** to both develop consensual environmental requirements and organise participation of civil society would lead to higher levels of public acceptance.
- There is **significant potential for the IED to reduce emissions to air** (dust and other pollutants), **pollution of surface water, groundwater and soil, noise and vibrations**. The size of impacts will depend on the outcome of the BAT process.
- The proposal focusses on the most relevant extraction activities; it does not cover the 25 000+ sites that extract aggregates.

“Some 750 industrial minerals sites, and 100 metallic minerals sites may be covered”

Thank you

More info?

<https://ec.europa.eu/environment/industry/stationary/index.htm>



#EUGreenDeal



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