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Corporate sustainability reporting on environmental pollution

Potential benefits and challenges for environmental authorities to use information disclosed according to European Sustainability Reporting Standard E2

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Abstract: Corporate sustainability reporting on environmental pollution

This study examines the usefulness and benefits of pollution-related information to be publicly reported by large European companies under the Corporate Sustainability Reporting Directive (CSRD) and its European Sustainability Reporting Standard (ESRS) E2 for environmental authorities. In particular, the study focuses on the interfaces between the new reporting requirements under ESRS E2 and the Industrial Emissions Directive (IED) and the European Pollutant Release and Transfer Register (E-PRTR). Four key issues regarding interoperability between these regulatory requirements were identified and discussed in an expert dialogue with representatives from environmental agencies and ministries from 18 countries. These comprise (1) usefulness of information on pollution-related policies, actions and targets, (2) the technicalities of emission data compilation and aggregation, (3) reporting formats and report location, and (4) assurance and verification of reported information. The discussions of the expert dialogue are summarised as a part of this study.

Kurzbeschreibung: Corporate sustainability reporting on environmental pollution

Diese Studie untersucht den möglichen Nutzen, den Umweltbehörden aus den Informationen über Umweltverschmutzung ziehen können, die große europäische Unternehmen im Rahmen der Richtlinie über die Nachhaltigkeitsberichterstattung von Unternehmen (Corporate Sustainability Reporting Directive – CSRD) und des Europäischen Standards für die Nachhaltigkeitsberichterstattung (European Sustainability Reporting Standard – ESRS) E2 künftig berichten müssen. Die Studie konzentriert sich insbesondere auf die Schnittstellen zwischen den neuen Berichterstattungsanforderungen im Rahmen des ESRS E2 und der Richtlinie über Industrieemissionen (Industrial Emissions Directive – IED) und dem Europäischen Schadstofffreisetzungs- und -verbringungsregister (European Pollution Release and Transfer Register – E-PRTR). Im Rahmen eines Expertendialogs mit Vertreterinnen und Vertretern von Umweltagenturen und -ministerien aus 18 Ländern wurden vier Schlüsselfragen zur Interoperabilität zwischen diesen gesetzlichen Anforderungen ermittelt und diskutiert. Diese umfassen (1) die Nützlichkeit von Informationen über Unternehmenspolitiken, Maßnahmen und Ziele im Zusammenhang mit Umweltverschmutzung, (2) Aspekte in der Erfassung und Aggregation von Emissionsdaten, (3) Berichtsformate und Ort der Berichterstattung sowie (4) die Überprüfung der berichteten Informationen. Die Diskussionen des Expertendialogs werden im Rahmen dieser Studie zusammengefasst.

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List of abbreviations

Abbreviation	Explanation
BAT	Best Available Techniques
BAT-AEL	Emission Levels Associated with the Best Available Techniques
BAT-AEPL	Environmental Performance Levels Associated with the Best Available Techniques
BREF	Best Available Techniques Reference Document
CSRD	Corporate Sustainability Reporting Directive
CLP	Classification, Labelling and Packaging of substances and mixtures
EEA	European Environment Agency
E-PRTR	European Pollutant Release and Transfer Register
ESAP	European Single Access Point
ESRS	European Sustainability Reporting Standard
EU	European Union
FY	Financial Year
GOV	Governance
IED	Industrial Emissions Directive
IEP	Industrial Emissions Portal
IRO	Impact, Risks and Opportunities
MT	Metrics and Targets
NFRD	Non-Financial Reporting Directive
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
SBM	Strategy and Business Model
SFDR	Sustainable Finance Disclosure Regulation
SME	Small and Medium Enterprises

Summary

The Corporate Sustainability Reporting Directive (2022/2464/EU – CSRD) entered into force on January 05th, 2023. This new Directive replaces the previous Non-Financial Reporting Directive (NFRD) by extending the reporting obligations for companies with regard to environmental, social and governance-related information. Besides modernising and strengthening the rules for disclosure of sustainability information, the CSRD is broadening the scope of companies being subject to reporting. The central goal of the CSRD is to improve the quality of sustainability information, meeting the increased demand from financial market participants and other stakeholders for more transparency on sustainability performance. It is estimated that the Directive will eventually apply to approximately 50,000 large European companies. Smaller companies may be indirectly affected through their supply chain relationships.

An essential part of the CSRD is the definition of dedicated sustainability reporting standards, called European Sustainability Reporting Standards (ESRS). These standards cover a broad range of environmental, social and governance topics and aim to enhance the comparability, relevance, and credibility of reported sustainability information. Companies within the scope of the CSRD will be required to apply the ESRS, but only with regard to those topics that are material to them. To determine the material topics, companies have to conduct a thorough assessment, aiming to uncover their significant impacts on people and the environment as well as sustainability-related financial consequences. The European Commission has adopted the first set of ESRS as a Delegated Regulation on July 31st which will enter into force from January 2024 (European Commission 2023a).

As the CSRD is broadening reporting obligations, companies have to compile and provide a significant amount of data. However, some of the data points are already required by existing environmental legislation. The German Environment Agency has repeatedly emphasized in its opinions on the draft ESRS that compatibility of the new reporting obligations with existing environmental legislation is of high importance. This ensures that environmental authorities can utilize the reported information and prevents duplication of efforts of companies for data collection, processing and communication. So far, the role of the ESRS in the work of environmental authorities at the European, national, and regional levels has not been systematically analysed and discussed. This is a major shortcoming, since the links between existing environmental laws and the new reporting rules under the ESRS may allow to tap synergies.

This study contributes to the discussion on the usefulness and benefits of corporate pollution-related information to be reported according to ESRS E2 for environmental authorities. In particular, it focuses on the interfaces of ESRS E2 with the Industrial Emissions Directive (IED) and the European Pollutant Release and Transfer Register (E-PRTR). The study introduces the CSRD and the ESRS (chapter 1). It compares the provisions of ESRS E2 with those of the IED and E-PRTR Regulation (chapter 2 and 3) and summarizes the results of an international expert dialogue on the matter (chapter 4), in which representatives from environmental agencies and ministries of 18 European countries participated.

Zusammenfassung

Die Richtlinie über die Nachhaltigkeitsberichterstattung von Unternehmen (engl. Corporate Sustainability Reporting Directive 2022/2464/EU – CSRD) ist am 5. Januar 2023 in Kraft getreten. Diese neue Richtlinie ersetzt die vorherige Richtlinie über die nichtfinanzielle Berichterstattung (engl. Non-Financial Reporting Directive – NFRD) und erweitert die bestehenden Berichtspflichten in Bezug auf Umwelt-, Sozial- und Governance-Informationen. Neben der Modernisierung und Stärkung der Anforderungen an die Offenlegung von Nachhaltigkeitsinformationen erweitert die CSRD den Kreis der berichtspflichtigen Unternehmen. Zentrales Ziel der novellierten Richtlinie ist, die Qualität der Nachhaltigkeitsinformationen zu verbessern und damit der gestiegenen Nachfrage von Finanzmarktakteuren und anderen Stakeholdern nach mehr Transparenz nachzukommen. Die Richtlinie wird schätzungsweise für etwa 50.000 große europäische Unternehmen gelten. Kleinere Unternehmen können indirekt über ihre Lieferkettenbeziehungen betroffen sein.

Ein wesentlicher Bestandteil der CSRD sind Standards für die Nachhaltigkeitsberichterstattung, die sogenannten „European Sustainability Reporting Standards“ (ESRS). Diese Standards decken ein breites Spektrum von Umwelt-, Sozial- und Governance-Themen ab und sollen die Vergleichbarkeit, Relevanz und Glaubwürdigkeit der berichteten Nachhaltigkeitsinformationen verbessern. Unternehmen, die in den Geltungsbereich der CSRD fallen, müssen die ESRS anwenden, allerdings nur in Bezug auf die Themen, die für sie wesentlich sind. Um die wesentlichen Themen zu bestimmen, müssen die Unternehmen eine gründliche Analyse durchführen, die darauf abzielt, die wesentlichen Auswirkungen auf Mensch und Umwelt sowie die finanziellen Folgen nachhaltigkeitsbezogener Risiken und Chancen aufzudecken. Die Europäische Kommission hat das erste Set an ESRS am 31. Juli als delegierte Verordnung verabschiedet, die ab Januar 2024 in Kraft treten wird (Europäische Kommission 2023a).

Unter den erweiterten Berichtspflichten müssen Unternehmen mehr Nachhaltigkeitsdaten als bislang erheben und berichten. Einige der Datenpunkte sind jedoch bereits von bestehenden Umweltrechtsvorschriften vorgeschrieben. Das Umweltbundesamt hat in seinen Stellungnahmen zu den Entwürfen der ESRS wiederholt betont, dass die Vereinbarkeit der neuen Berichtspflichten mit dem bestehenden Umweltrecht von großer Bedeutung ist. Damit wird sichergestellt, dass die Umweltbehörden die berichteten Informationen nutzen können und Doppelarbeit der Unternehmen bei der Datenerhebung, -verarbeitung und -übermittlung vermieden wird. Bislang wurde die Rolle der ESRS in der Arbeit der Umweltbehörden auf europäischer, nationaler und regionaler Ebene nicht systematisch analysiert und diskutiert. Dies ist ein großes Manko, da die Verbindungen zwischen den bestehenden Umweltrechtsvorschriften und den neuen Nachhaltigkeitsberichtspflichten Synergien ermöglichen könnten.

Diese Studie soll einen Beitrag zur Diskussion über den Nutzen und die Vorteile der nach ESRS E2 zu berichtenden Informationen für Umweltbehörden leisten. Sie konzentriert sich insbesondere auf die Schnittstellen des ESRS E2 mit der Richtlinie über Industrieemissionen (IED) und dem Europäischen Register zur Erfassung der Freisetzung und Übertragung von Schadstoffen (E-PRTR). Die Studie stellt die CSRD und den ESRS vor (Kapitel 1). Sie vergleicht die Bestimmungen der ESRS E2 mit denen der IED und der E-PRTR-Verordnung (Kapitel 2 und 3) und fasst die Ergebnisse eines internationalen Expertendialogs zu diesem Thema zusammen (Kapitel 4), an dem Vertreter und Vertreterinnen von Umweltbehörden und -ministerien aus 18 europäischen Ländern teilnahmen.

1 The Corporate Sustainability Reporting Directive (CSRD)

1.1 Objective and scope

The CSRD is an amendment to the European Union's (EU) Accounting Directive¹ which contains the rules for corporate financial reporting. It expands the Accounting Directive's original financial focus by requiring undertakings² to publicly disclose sustainability information as part of their annual financial reporting. Its predecessor, the so called Non-Financial Reporting Directive (2014/95/EU – NFRD), served the same intent but was found not fit for the purpose of providing sufficient and high-quality sustainability information³. Hence, the CSRD is intended to expand, improve and standardise sustainability reporting to create transparency on sustainability-related impacts, risks and opportunities of European undertakings and those that are active in the EU market. The information is directed to financial market participants, such as investors, banks or insurances, who increasingly assess the sustainability performance and risk exposure of their investees and clients, but also to other stakeholders, such as business partners, civil society organisations, consumers or state agencies. The centrepiece of the Directive are the development and mandatory application of uniform reporting standards, the ESRS. The ESRS have been adopted as delegated acts of the European Commission and contain the detailed reporting requirements for undertakings on environmental, social and governance topics (see section 1.2).

The CSRD enters into force in three phases. Undertakings already subject to the NFRD, i.e. those that are capital market-oriented and exceed certain size thresholds, must begin reporting in 2025 on their 2024 financial year. Large undertakings not currently subject to the NFRD must begin reporting in 2026 on their 2025 financial year. Small and medium enterprises (SME) are not subject to the reporting requirements with the exemption of those that are listed on regulated markets, such as stock exchanges. Listed SMEs (except micro undertakings) as well as small and non-complex credit institutions, and captive insurance undertakings must begin reporting in 2027 on their 2026 financial year.

Additionally, the CSRD will also apply to non-EU undertakings that generate over EUR 150 million per year in the EU and that have in the EU either a branch with a turnover exceeding EUR 40 million or a subsidiary that is a large company or a listed SME. Those companies will have to report their sustainability information at the group level of the non-EU company as from 2029 (financial year 2028).

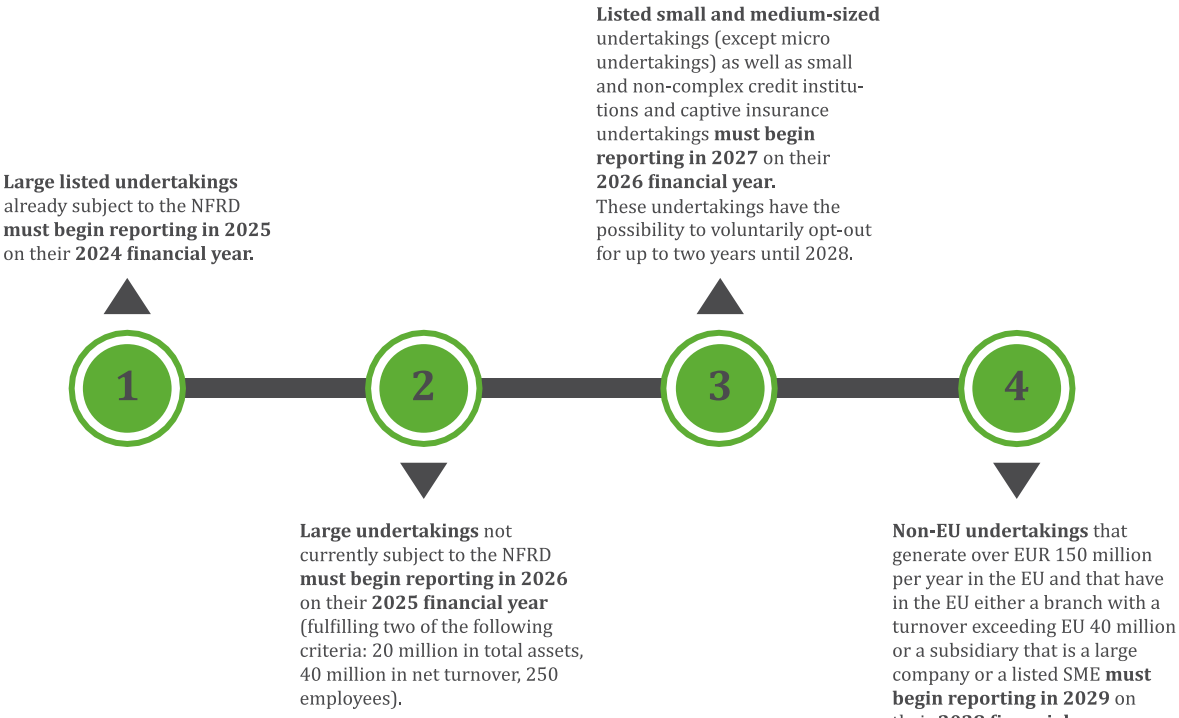
The type of companies that fall under the CSRD and the phased approach to applying the reporting requirements is summarized in Figure 1.

¹ Directive 2013/34/EU of the European Parliament and of the Council of 26 June 2013 on the annual financial statements, consolidated financial statements and related reports of certain types of undertakings.

² Companies subject to the Accounting Directive and CSRD are referred to as "undertakings".

³ A public consultation on the Review of the Non-Financial Reporting Directive conducted by the European Commission came to this conclusion (European Commission 2020).

Figure 1: Scope of the CSRD and phased expansion approach

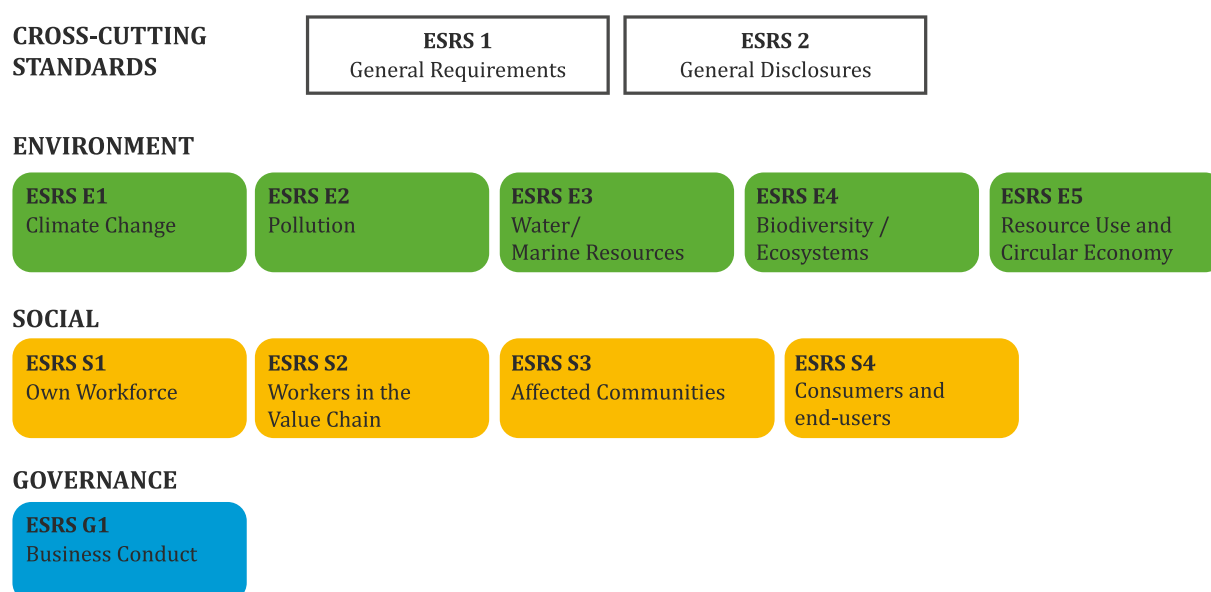


Source: own illustration, adelphi, based on Art. 5 CSRD; note: the European Commission is planning to inflation-adjust the financial size criteria with a delegated act currently available as a draft (European Commission 2023b).

1.2 Reporting standards and double materiality

The ESRS are divided into two “cross-cutting standards” and ten “topical standards”. The cross-cutting standards contain general information and disclosure requirements, whereas the topical standards contain more specific disclosure requirements and guidance related to several environmental, social and governance topics (see Figure 2 for an overview). These standards were adopted by the European Commission in July 2023 as a delegated act (European Commission 2023a). In the future, the ESRS reporting framework will be supplemented by a set of sector-specific standards and simplified standards for small and medium enterprises.

Figure 2: Overview of the ESRS



Source: own illustration, adelphi

ESRS 1 General requirements and ESRS 2 General Disclosures are the two “cross-cutting standards” and apply to all undertakings and sustainability matters.

ESRS 1 contains requirements for preparing and presenting sustainability-related information, outlining the architecture of the ESRS and explaining core concepts, including the concept of “double materiality”. The double materiality concept is described in more detail in the text box and Figure 3 below.

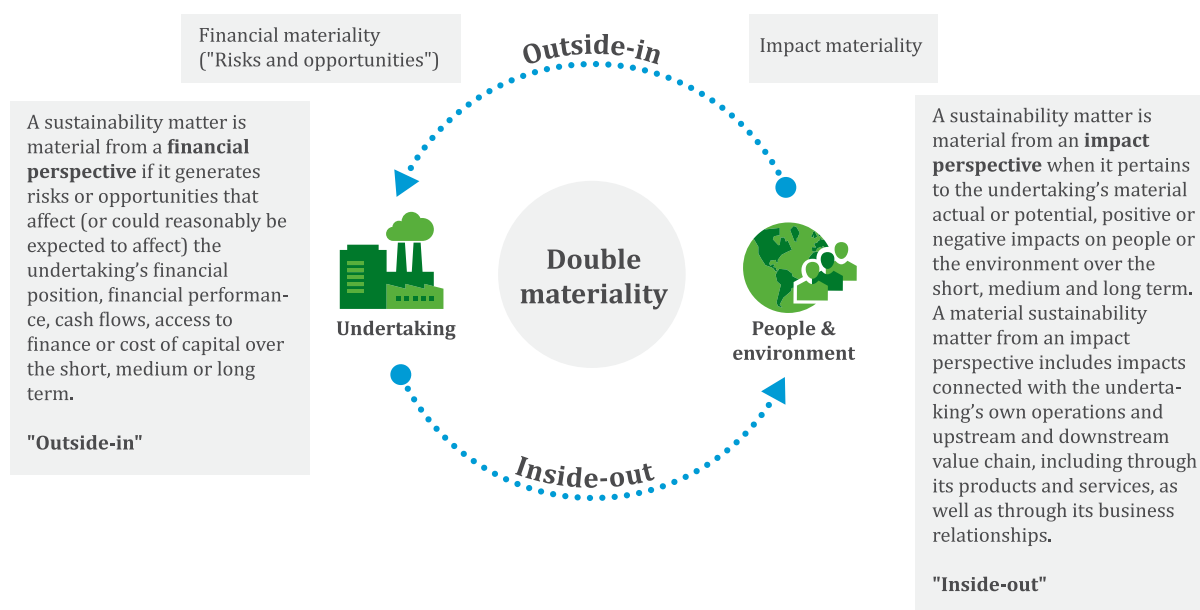
The double materiality of the CSRD

In the CSRD and ESRS, materiality is the criterion to define which information has to be reported upon. If a topic or a piece of information is not assessed by the undertaking to be material, it can be omitted. Because of the importance of this concept, it comes with a set of definitions and rules.

- ▶ First, all undertakings subject to the CSRD are required to conduct a materiality assessment in order to determine which sustainability topics are material and which information to include with regards to a material topic. The result of this assessment determines which ESRS have to be applied to which extent.
- ▶ Second, the perspective from which materiality has to be assessed is twofold: Information can either be material because it relates to a severe impact of the undertaking on the environment or people, or because it relates to risks or opportunities that affect the undertaking’s financials. For this reason, the concept is called “double materiality”.
- ▶ Third, the concept covers impacts and financial effects occurring during the reporting year but also in the short-, medium- and long-term future and covers an undertaking’s own operations as well as its full up- and downstream value chain.

The main features of the double materiality concept are depicted in Figure 3 below.

Figure 3: Overview of the ESRS’s double materiality concept



Source: own illustration, adelphi based on ESRS 1 (European Commission 2023a)

ESRS 2 defines the information undertakings have to provide at a general level across all material topics, including, for example, how sustainability topics are governed in the undertaking, how the strategy and business model interact with sustainability, how the undertaking has conducted its materiality assessment process and the results of this process (i.e. the material topics covered in the reporting) or how the undertaking has assessed and involved its stakeholders. ESRS 2 also defines the minimum requirements that need to be reported on policies, actions, targets and performance metrics under the topical standards.

The **ESRS "topical standards"** specify the requirements of Art. 29b (2) Accounting Directive and cover a range of environmental, social and governance topics. They are to be applied if the materiality assessment of the undertakings shows that the topics covered by the respective ESRS are material, because of the undertaking's significant environmental or social impacts (so-called "impact materiality") or because of the associated financial effects for the undertaking (so called "financial materiality"). The environmental standards include climate change (ESRS E1), pollution (ESRS E2), water and marine resources (ESRS E3), biodiversity and ecosystems (ESRS E4), as well as resource use and circular economy (ESRS E5). Social standards include own workforce (ESRS S1), workers in the value chain (ESRS S2), affected communities (ESRS S3), consumers and end-users (ESRS S4). Governance includes a standard on business conduct (ESRS G1). Topical ESRS can cover more granular sub-topics, or where necessary sub-sub-topics. ESRS E1 – Climate change, for example, covers the sub-topics climate change mitigation, climate change adaptation and energy. ESRS E2 – Pollution covers the sub-topics pollution to air, water and soil as well as substances of concern. In addition, an undertaking can add additional information on topics not or not sufficiently covered by the ESRS (so called "entity-specific information").

The topical ESRS all follow a similar structure and require information on:

- **Governance (GOV):** the governance processes, controls and procedures in place to monitor, manage and oversee impacts, risks and opportunities

- ▶ **Strategy and Business Model (SBM):** the interaction of strategy and business model with material impacts, risks and opportunities, including how those impacts, risks and opportunities are addressed
- ▶ **Impact, risk and opportunity management (IRO):** the processes to identify impacts, risks and opportunities and assess their materiality as well as how material sustainability topics are managed through policies and actions
- ▶ **Metrics and targets (MT):** the defined performance and targets as well as evaluation of the progress related to sustainability topics.

An overview of the disclosure requirements of all environmental topical ESRS can be found in the Appendix of this document.

1.3 Reporting format and assurance

The information required by the ESRS has to be disclosed in the undertaking's management report, and presented in a dedicated section, the so-called "sustainability statement". The sustainability statement has to be machine-readable in digital format. For this purpose, a "digital taxonomy" is currently being developed which will allow undertakings to assign digital tags to the information they report according to the ESRS, a practice that was introduced a few years ago for financial reporting as well. The goal is to increase findability, usability and comparability of sustainability information. Eventually, the data shall enter the European Single Access Point (ESAP), a common platform for corporate financial and sustainability data planned to be operable from 2027 onwards.⁴

All companies within the scope of the CSRD are required to seek assurance for compliance with the ESRS, which includes, among others, the process of the materiality assessment, the information and data provided according to the cross-cutting and topical standards and the digital tagging of sustainability information. The assurance engagement is conducted by statutory auditors or audit firms. Member states can in addition, as part of the transposition of the CSRD into national law, permit accredited independent assurance service providers to verify the sustainability information. Assurance engagements can be conducted with limited or reasonable assurance, where reasonable assurance is the more thorough process of information verification (see Recital 60 of the CSRD). The CSRD requires limited assurance from the first year of reporting and mandates the European Commission to perform an assessment to determine whether moving from limited to reasonable assurance is feasible for both auditors and undertakings. The European Commission is required to adopt assurance standards for limited assurance no later than October 1, 2026, and, depending on the assessment results, reasonable assurance no later than October 1, 2028. The opinion and statement of the assurance provider as regards compliance with the CSRD and ESRS has to be published together with the report.

⁴ For further information see European Parliament (2023).

2 Interfaces of ESRS E2 with the IED and E-PRTR Regulation

This chapter examines the interfaces and relationships between the reporting obligations imposed by ESRS E2 “Pollution” with the IED and the E-PRTR Regulation. First, the content of ESRS E2 is briefly presented and the direct references to the IED and the E-PRTR Regulation are pointed out. Afterwards, the three pieces of legislation are compared using the following criteria: objective of the law, reference object, data requirements and collection methods, particularities of the laws, reporting format and verification and assurance of information.

In order to obtain first practical insights, selected environmental authorities and undertakings subject to the CSRD, the IED and E-PRTR were interviewed. Non-representative individual statements are presented anonymously in speech bubbles in this chapter to enrich the analysis.

2.1 ESRS E2 and references to the IED and E-PRTR Regulation

To reduce complexity and harmonize sustainability-related reporting, the ESRS include references to existing laws, standards and frameworks. This is also the case for ESRS E2.

The disclosure requirements of ESRS E2 have to be read in conjunction with ESRS 1 and ESRS 2. ESRS E2 requires an undertaking to disclose the process for identifying and assessing pollution-related impacts, risks and opportunities. Based on this, and if pollution to air, water or soil or the use of substances of concern are assessed as material topics, the undertaking is required to disclose information on:

- ▶ policies related to pollution [disclosure requirement E2-1]
- ▶ actions taken and resources allocated to address pollution [E2-2]
- ▶ targets related to pollution [E2-3]
- ▶ quantitative information on air, water and soil pollution as well as generated or used microplastic [E2-4]
- ▶ quantitative information on substances of concern and substances of very high concern [E2-5], and
- ▶ the financial effects of pollution-related risks and opportunities [E2-6].⁵

ESRS E2 directly refers to the E-PRTR regulation in disclosure requirement E2-4 (paragraph 28). Undertakings shall disclose emissions to air, water and land for the pollutants listed in Annex II of the E-PRTR Regulation. Exceptions are greenhouse gas emissions, which are disclosed in ESRS E1 Climate Change.

In addition, undertakings *may* provide further information if their industrial installations are covered by the IED and relevant Best Available Techniques Reference Documents (BREFs), including:

- ▶ “a list of industrial installations operated by the undertaking that fall under the IED;
- ▶ a list of any non-compliance incidents or enforcement actions necessary to ensure compliance in case of breaches of permit conditions;

⁵ The text of the disclosure requirements of ESRS E2 can be found in Annex I of the ESRS delegated act (European Commission 2023a): https://ec.europa.eu/finance/docs/level-2-measures/csrd-delegated-act-2023-5303-annex-1_en.pdf (pp. 104-114)

- ▶ the actual performance, as specified in the EU-BAT conclusions for industrial installations, and comparison of the undertaking's environmental performance against 'emission levels associated with the best available techniques' the (BAT-AEL) as described in EU-BAT conclusions;
- ▶ the actual performance of the undertaking against 'environmental performance levels associated with the best available techniques' (BAT-AEPLs) provided that they are applicable to the sector and installation; and
- ▶ a list of any compliance schedules or derogations granted by competent authorities according to Art. 15(4) Directive 2010/75/EU that are associated with the implementation of BAT-AELs." (European Commission 2023a, Annex I, p. 113)

In the following sections, ESRS E2 and relevant provisions of the IED and E-PRTR Regulation are compared to provide an understanding of commonalities and differences.

2.2 Regulatory objectives

The IED, the E-PRTR Regulation and the CSRD differ with regard to their specific objectives and scope. The IED is a permitting Directive and lays down rules on integrated prevention and control of pollution arising from industrial activities listed in its Annex I. It requires that no installation operates without a permit and contains rules concerning the basic obligations of operators, the content of permit application documents, permit conditions, the use of best available techniques (BAT), monitoring requirements, conditions for site closure, environmental inspections, access to information and public participation in the permit procedure. The aim of the Directive is to achieve a high level of protection of the environment as a whole. The IED requires operators of industrial installations to monitor the emission of specific air and water and soil pollutants. While the reports on emission monitoring are submitted to the competent authorities, information concerning the permit procedures is made publicly available.

The main purpose of the E-PRTR Regulation is the publication of emissions and waste data from facilities within its scope for the general public. The register also aims to enable monitoring and comparison of data on pollutant emissions and transfer of waste from industrial facilities.

As shown in section 1.1, the overall objective of the CSRD is to provide greater transparency on the sustainability impacts, risks and opportunities of European undertakings to their stakeholders, primarily financial market participants, as a broader basis for their investment decisions. The main objective of ESRS E2 is to provide transparency on the undertaking's contribution to air, water and soil pollution, the policies, actions and targets it has in place to prevent and reduce pollution, and the pollution-related risks and opportunities.

2.3 Reference object

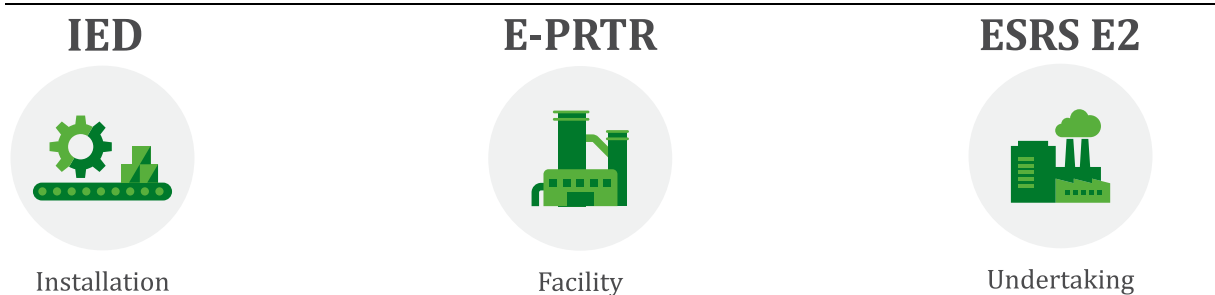
A major difference between ESRS E2, the IED and the E-PRTR Regulation is the object of reference to which the rules of the respective legislations apply.

The provisions of the IED apply to industrial installations set out in its Annex I and, where applicable, exceeding the associated capacity thresholds. These industrial installations include the energy sector, the production and processing of metals, the mineral industry, the chemical industry, waste management and a large number of other activities of various sectors (e.g. pulp and paper industry, production of wood-based panels, textile industry, tanning of hides and skins, slaughterhouses, food, drink and milk production, intensive rearing of poultry and pigs).

The E-PRTR Regulation, on the other hand, regulates the reporting of industrial facilities, where several industrial installations can be part of one facility. The type of facilities subject to reporting is defined in Annex I of the Regulation and must exceed a certain capacity threshold, which is specified in the same Annex. The Annex I of the IED and the Annex I of the E-PRTR overlap to some extent. It should be noted that for a reporting obligation under the E-PRTR both criteria of Annex I and II need to be fulfilled, i.e. falling under the listed industrial activities and the capacity threshold given in Annex I plus exceeding the thresholds for release (pollutant in kg/year) given in Annex II.

In the CSRD, and by extension the ESRS E2, an undertaking in its legal form is the object of reference. The CSRD covers the entire undertaking, including its subsidiaries and other entities controlled or owned, based on the consolidation rules for financial accounting. It therefore includes all facilities and installations controlled by the undertaking. In addition, the CSRD expands the reporting boundary beyond the own operations of the undertaking to the up- and downstream value chain. The different objects of references of the respective laws are shown in Figure 4.

Figure 4: Different reference objects of the laws considered in this study



Source: own illustration, adelphi

Different reference objects - what an authority says⁶:

Different aggregation levels of data collection can also be a challenge for companies.

Environmental Authority

2.4 Data requirements

All three regulations refer to specific pollutants which must be addressed and, in the case of E-PRTR and ESRS E2, the respective emissions publicly reported. The polluting substances overlap to a large degree, but are not exactly the same.

The list of polluting substances covered by the IED and addressed in permit conditions is defined in Annex II. Additionally, the competent authorities may choose to also set emission limit values for other substances which are likely to be emitted from the industrial installation. Annex II of the IED contains a total of 13 air polluting substances. These include for example sulphur dioxide, nitrogen oxides and others. Further, Annex II lists 12 water polluting substances and

⁶ Note: The statements included in this paper are individual assessments and not representative.

also refers to the priority substances contained in Annex X of the Water Framework Directive (2000/60/EC). The IED also includes permit conditions for waste management. Data gathering takes place at two different levels with different data requirements. First, during the process for determination of BAT that leads to updated BAT reference documents. In the course of this exchange of information about BAT, permit-relevant data are gathered via questionnaires. Second, operators have to supply the competent authority regularly, at least annually, with information on the basis of results of emission monitoring that enables the competent authority to verify compliance with the permit conditions. These reports on the results of emission monitoring (besides other permit-related data) must be made available to the public by the competent authority. Emission levels associated with BAT (BAT AELs) and emission limit values respectively are mostly expressed as concentrations (e.g. mg/l, mg/Nm³) based on the reference period of a day (daily average). Sometimes, product-specific loads (kg pollutant/t of product) are used to present BAT AELs and emission limit values. Data are produced by self-monitoring of the operators and additionally by samplings taken and analysed by competent authorities.

In the E-PRTR, the pollutants to be reported are defined in Annex II of the Regulation. The Annex contains 91 pollutants, which include most of the polluting substances of Annex II of the IED. However, there are also pollutants covered by the IED but not the E-PRTR and vice versa. A difference to the IED is that facilities may carry out a certain industrial activity covered by Annex I of the E-PRTR Regulation, but if their pollutant emissions remain below the thresholds defined in Annex II, they are exempted from reporting. The IED does not have these emissions thresholds, so installations are permitted, supervised and inspected even if they have relatively low emission loads (no threshold for releases). In the E-PRTR, facilities must also report their off-site transfers of hazardous waste in excess of two tonnes per year or non-hazardous waste in excess of 2,000 tonnes per year and their off-site transfers of Annex II pollutants in waste water above the defined threshold. The pollutants are to be reported in kilograms per year and have to be gathered per calendar year.

ESRS E2 requires the reporting of quantitative data on the amounts of pollutants emitted to air, water and soil (disclosure requirement E2-4) and the amounts of substances of concern and substances of very high concern procured, used and sold (disclosure requirement E2-5). Regarding emissions to air, water and soil, the standard relies on the information an undertaking has to report according to the E-PRTR. Undertakings must aggregate the amounts of the respective pollutant emissions of their facilities, in case they own or operate more than one facility that is subject to the E-PRTR. The purpose of this reference is to allow operators to transfer the pollutant data that has already been thoroughly collected, so that data is not collected twice. The amount of pollutant emissions has to be collected for all facilities over which a company has operational or financial control. Only pollution data from facilities exceeding the capacity thresholds defined in the E-PRTR regulation need to be reported. The amount of pollutants is reported in ESRS E2 in appropriate units, e.g. tonnes or kilograms. The data has to be collected per financial year. In addition, ESRS E2 further requires the collection and reporting of quantitative data on microplastics.⁷ Polluting substances not covered by the E-PRTR can also be subject to (qualitative) reporting under ESRS E2, if these substances are associated with material environmental impacts in the undertaking's own operations or value chain. Data on substances of concern and substances of very high concern have to be reported in addition (disclosure requirement E2-5). Here, ESRS E2 refers to the substances covered by the EU REACH

⁷ Note: ESRS E2 does not provide specific rules which types of microplastic (primary or secondary) to include and how to measure the amount of microplastics generated or used by the undertaking. This also correlates with the current lack of reliable sampling and analytical methods for microplastics.

Regulation⁸ and CLP Regulation⁹ as well as future requirements under the forthcoming Ecodesign for Sustainable Products Regulation (European Commission 2022).¹⁰

The different time periods, calendar year for the E-PRTR Regulation and financial year for ESRS E2, could be a difficulty when referring to the data collected for the E-PRTR. There are no problems for undertakings where the financial year coincides with the calendar year. Undertakings for which this is not the case may have difficulties in restructuring the data.

Data requirements - what a company and authorities say:



Data quality

The data collected for the three regulations have different quality requirements due to the different purpose of their use, different users and the different scopes of the laws.

Data collected for the IED have very high quality due to permit compliance obligations. Usually the data are measured using standard methods for analysis. Operators of industrial installations are obliged to comply with defined emission monitoring requirements. These include defined sampling conditions and methods, defined measurement methods, measurement frequencies and an assessment of compliance with emission limit values. Monitoring requirements are supposed to be based on the BATs on monitoring described in the BAT conclusions.

The data of the E-PRTR Regulation can be based on either measurements, calculations or estimates. If the data are based on measurements or calculations, the methodology used for the measurement or calculation must also be provided. In this case, the data may be of a similar quality as for the IED. When data are estimated, the quality level decreases compared to measured data.

In the case of ESRS E2, different quality levels of data collection are allowed in a ranked order. Although the methods are ranked, undertakings are not told which quality level to use. Possible collection methods are direct measurement of emissions, effluents and other pollutants by recognised monitoring systems, periodic measurement, calculations based on site-specific data,

⁸ Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

⁹ Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures.

¹⁰ European Commission (2023a), Annex I, p. 109 and Annex II, pp. 27 and 28.

calculations based on published pollution factors and estimates. Again, the quality of the data can be high or low, depending on the methodology of collection.

Undertakings that are covered by the IED because they operate certain industrial installations can provide very detailed data on at least some of their installations and facilities for their sustainability reporting. Inversely, data solely collected for the purposes of reporting under ESRS E2 cannot be used for reporting under the IED, as the IED requires accurate measurements of emission points on the installation level with defined sampling periods, monitoring methods and reference conditions.

How management systems can support data collection – what a company and an environmental agency say:

Environmental Management Systems are a useful tool for meeting reporting requirements.

Environmental Authority

A lot of data is collected as part of the management system. However, other parameters and data are often requested in the reporting requirements.

Company

Data quality in reporting obligations – what the authorities say:

The most effective way to achieve high data quality is through co-operation between environmental authorities, companies and possibly even third parties such as engineering consultants.

Environmental Authority

There is a huge difference between big and small companies. Bigger companies can employ advanced data software, while small companies struggle to fulfil their commitments.

Environmental Authority

2.5 Specificities and additional requirements

All three laws have specificities and additional requirements.

In the context of the IED, there are different levels where data on the environmental performance of installations are gathered, reported and (partially) made publicly available:

1. the permit application documents (not generally publicly available; only displayed during the permitting phase),
2. the permit decisions (and possible updates),
3. the yearly reports on emission monitoring and other required data that enables the competent authority to verify compliance with the permit conditions, and finally
4. the samplings and data taken for the compliance check of permit conditions by competent or supervising authorities.

If the activity carried out in the industrial installation involves the use, production or release of relevant hazardous substances as defined in the CLP-Regulation, the operator must additionally prepare a baseline report, addressing possible soil and groundwater contamination caused by the activity. The baseline report has to contain the information necessary to determine the state of soil and groundwater contamination so as to make a quantified comparison with the state upon definitive cessation of activities.

However, all these requirements except the yearly reports on emission monitoring and other required data are not related to the annual reporting under the IED.

In case of the E-PRTR, from the 2023 reporting year onwards, operators of facilities will also have to report the production volume of their facilities. This information will not be published.

There are a number of additional requirements in ESRS E2. Undertakings must disclose their process to identify material pollution-related impacts, risks and opportunities. If pollution is a material topic for them, they have to disclose their policies, actions and targets for preventing, reducing or remediating pollution. This information does not only relate to their own operations but also to their up- and downstream value chain. Undertakings are also required to disclose the financial effects of pollution-related risks, such as costs in conjunction with major incidents or remediation costs for contaminated sites, as well as those from opportunities from pollution prevention and control. Data on resource use are required by ESRS E5 and on energy consumption by ESRS E1.

Usefulness of data on an undertaking's policies, actions and targets for environmental authorities – what authorities say:

Data increases the ability to build/run (econometric) scenarios and to monitor and forecast environmental impacts. Ultimately, this would enable building useful (i.e. targeted) policies that are based on a solid scientific basis.

Environmental Authority

There are many data gaps that can possibly be closed by the CSRD. Therefore, environmental authorities should have access and be able to use them.

Environmental Authority

Additional data might be helpful but is no priority due to limited human capacities at the authority.

Environmental Authority

2.6 Reporting format and processes

The IED, E-PRTR Regulation and ESRS E2 require different types of reporting processes from the undertakings concerned. There are differences in the format in which information is reported and to whom it is reported.

According to **the IED**, operators are obliged to submit annual reports on their compliance with BAT and other permit conditions to the competent authority. These must include information based on emission monitoring and other necessary data to enable the competent authority to verify compliance with the conditions. In order to ensure public access to information and allow for public participation in the permit procedure, the competent authority shall make available to the public, including via the internet, in particular the content of the permit decision including a copy of the permit and any subsequent update and, where a derogation from meeting the BAT AELs is granted, the specific reasons for that derogation and the conditions imposed.

In the context of the EU Registry Reporting on the implementation of the IED¹¹, member states are obliged to provide:

1. the URL(s) where the permit(s) is/are made available to the public,
2. the URL making available to the public the specific reasons for the derogation,
3. the URL of the last site visit report, or a generic URL explaining how individual visit reports can be publicly accessed and provided that they have been set up (not mandatory), and
4. the URL where the results of emission monitoring are made available to the public.

This information can be found in the Industrial Emission Portal of the European Environment Agency (n.d.) and national portals (e.g. Umweltbundesamt n.d.). The competent authority shall also publish on the internet relevant information on the measures taken by the operator when permanently ceasing its activities. Information on the results of emission monitoring required under the permit conditions and held by the competent authority must also be made public, but only on request and not on the internet.

The frequency of monitoring is specified in the permit decisions by the competent authority on the basis of the monitoring BAT in the BAT conclusion. The minimum frequency of the monitoring of air emissions is usually once a year (carried out by the competent authority or certified third parties), and monitoring of water is either daily, weekly or monthly depending on the pollutant (based on self-monitoring). With regard to preventing pollution of soil and groundwater, periodic monitoring is carried out at least every five years for groundwater and at least every ten years for soil.

The purpose of the yearly report and any other data on the environmental performance of a given installation submitted to competent authorities is to assess and to make sure that BAT is applied, BAT AELs are met and all other permit conditions are complied with.

The **E-PRTR Regulation** requires the operators concerned to submit annual data in digital form on the pollution their facilities cause to air, water and land, off-site transfers of hazardous and non-hazardous waste and off-site transfers of pollutants in wastewater. Operators must also indicate the method of measurement, calculation or estimation used to collect the data. The companies have to report this information to the competent authorities for quality assessment and publication. In the case of Germany, for example, the regional competent authorities collect the operator data electronically with a common template, check quality and transfer it to the German Environment Agency (Umweltbundesamt) which again checks data quality, makes the data publicly available in the national register and submits it to the European level. In certain cases, companies can classify data as confidential. Such confidential data will not be made available to the public. In this case, the competent authorities have to report the reason for the confidentiality to the European Commission. Data are published in the national registers and in the European Industrial Emission Portal (European Environment Agency n.d.).

The CSRD's requirements for publication of sustainability information are based on those of financial reporting as defined in the Accounting Directive. The sustainability information is reported as part of the management report which complements an undertaking's financial statement. The reports are published by the undertaking. The ESRS allow a certain degree of flexibility in presenting the information, but an undertaking has to ensure that all sustainability information is adequately tagged to be machine-readable. In contrast to the IED and the E-PRTR

¹¹ Commission implementing decision (EU) 2018/1135 of 10 August 2018 establishing the type, format and frequency of information to be made available by the Member States for the purposes of reporting on the implementation of Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions

Regulation, the data collected is not submitted to and verified by a competent authority, but by financial auditors or, if allowed in the respective member state, independent assurance service providers.

On the potential for harmonisation of different reporting standards – what companies and an authority say:



Member states are required to submit certain data to the European Commission under the IED and the E-PRTR.

For the IED, the information needed to implement the Directive, including representative data on emissions and other forms of pollution, emission limit values, the application of BAT and the granting of derogations, must be submitted to the European Commission in electronic form and will be published in the EU Registry. However, this information is not yet presented on a single electronic platform. So far, the key information of IED reporting is related to permit decisions and updates, derogation from BAT AELs and the address of competent authorities in charge of the permit. Only a few member states publish the results of emission monitoring via the internet (including URL if websites have been created for this purpose). This will, however, change once the revised IED (see chapter 3) is adopted and transposed into national legislation.

The E-PRTR requires member states to publish the data received from operators in electronic form and also submit it to the European Commission. In order to do this, they have to use the reporting requirements regulated in Commission implementing decision (EU) 2019/1741.¹² Within 11 months of the end of the reporting year, the data must be transmitted in XML format to the EU level. The reporting format is the same for all member states, so that uniform and comparable data can be aggregated for the whole of Europe.

The sustainability information reported under the ESRS will in the future be submitted to and collected in the ESAP. The ESAP Regulation is currently under negotiation (European Parliament 2023).

¹² Commission Implementing Decision (EU) 2019/1741 establishing the format and frequency of data to be made available by the Member States for the purposes of reporting under Regulation (EC) No 166/2006.

Public databases and accessibility – what an authority says:

A larger centralised data base would substantially increase the risk of consequential data leakages. Also, the information of interest might be more easily found in less centralised data bases.

Environmental Authority

2.7 Verification and assurance of information

As far as the verification of data is concerned, different terms are used in the three legislative pieces. The IED is primarily using “compliance assessment”, while the E-PRTR Regulation refers to “Quality assurance and assessment” (Art. 9 E-PRTR Regulation) and the CSRD to “auditing” and “assurance”.

Concerning the IED, the competent authorities assess the annual reports as soon as possible. Furthermore, a system of environmental inspections of the industrial installations is set up by the member states, which includes the identification of the full range of environmental impacts of the industrial installations. This includes the general assessment of relevant environmental issues, the geographical area covered by the inspection plan, a register of installations subject to inspection, procedures for establishing programmes for routine and non-routine environmental inspections and, where necessary, provisions for cooperation between different inspection authorities. Environmental inspections must be carried out at least every three years. Following the inspections, the competent authority must prepare a report containing the relevant findings concerning the installation's compliance with the permit and indicating whether further action is required. This report must be sent to the operator of the industrial installation within two months and made available to the public within four months. The report is not available online but on request.

Member states also designate competent authorities to verify the data in the E-PRTR. These competent authorities verify the data for completeness, coherence and credibility. The methods of verification are diverse. If the authorities find errors in the data submitted, operators have to correct them annually in so-called correction cycles. The operators of the facilities are responsible for ensuring the quality and credibility of the data. When member states send the data to the European Commission, it is checked again.

The European Commission has adopted a phased approach to the assurance requirements under the CSRD. Initially, auditors will express an opinion based on a "limited assurance" engagement regarding the compliance of the sustainability statement with the CSRD requirements, including the ESRS. Subsequently, the auditing requirement is intended to transition to a "reasonable assurance" level. The main difference between the CSRD and the IED and E-PRTR is that it is not the competent authority that verifies the data, but the statutory auditor, an auditing firm and possibly other independent assurance service providers.

Verification and assurance of information – what companies and authorities are saying:

Environmental authorities would be most suitable to examine CSRD, but there is a resource problem. Economic oriented auditors are not suitable because of a lack of technical know-how.

Environmental Authority

EMAS verifiers, as they are experts in environmental aspects, should be recognized and promoted for auditing the CSRD.

Environmental Authority

Another issue is the organisation of competencies within the governmental structure. Regional authorities validate the data but they struggle to meet the deadlines.

Environmental Authority

Financial auditors are usually already experts in both areas (finance; environment). The data is checked by different persons within one auditing company.

Company

Discussions are taking place on who is responsible for the verification of corporate sustainability reports. EMAS verifiers or in the case of Latvia EMAS Competent Bodies apply for this task. EMAS Competent Bodies are experts in environmental issues, the question is to what extent the EMAS verifier could verify social and governance issues of the corporate sustainability reports.

Environmental Authority

Interfaces of the ESRS with other EU environmental legislation:

Beyond the topic of pollution, the environmental ESRS refer in many instances to existing European environmental law. A precise elaboration of the interfaces and their practical implications is an important task to prevent duplication of efforts in data collection, processing, and communication for companies and could lead to benefits for environmental authorities.

The disclosure requirements of ESRS E1 explicitly refer to the requirements of associated EU laws such as the European Climate Law, the European Emission Trading Systems and other EU capital market legislation, such as the Benchmark Regulation, the Sustainable Finance Disclosure Regulation (SFDR), the Taxonomy Regulation and the Pillar 3 disclosure requirements of the Capital Requirements Regulation. The standard, however, does also have interfaces with laws not directly mentioned, for example the Energy Efficiency Directive, the Carbon Border Adjustment Mechanism Regulation or the Directive on Green Claims, among others. The standard ESRS E3 explicitly refers to the Water Framework Directive, the Marine Strategy Framework Directive and the Maritime Spatial Planning Directive as well as the vision for 2050 of “living well within the ecological limits of our planet” set out in the 7th Environmental Action Programme and SDG 6 and 14. The requirements under ESRS E4 Biodiversity and Ecosystems build on relevant local, national and global biodiversity targets, which are, among others, defined through the Biodiversity Strategy for 2030 and the Birds and Habitats Directives, as well as the Marine Strategy Framework Directive. The Standard further refers to planetary boundaries related to biosphere integrity and land system change and the vision of the Kunming-Montreal Global Biodiversity Framework and its relevant goals and targets. The main objectives of ESRS E5 Circular economy and resource use align with the EU waste hierarchy and its strategy on circular economy, mainly building on the EU Circular Economy Action Plan, the Waste Framework directive and the EU industrial strategy.

3 Outlook on the revisions of the IED and the E-PRTR Regulation

Both the IED and the E-PRTR Regulation are currently under revision.

The proposal for an amended IED was presented by the European Commission on April 5, 2022. In the course of the IED revision, one proposal among others is to extend the scope. The activities listed in Annex I will be extended to include e.g. more intensive livestock farms, the manufacturing of batteries (Giga-factories), and some mining activities. In the future, IED installations will have to implement mandatorily an environmental management system that will be audited at least every three years by an external auditor or an environmental verifier contracted by the operator. In addition, as part of the management system, transformation plans will have to be drawn up, setting out strategies for further reducing pollutants, moving towards the EU climate neutrality goals and promoting circular economy. Member states shall ensure that relevant information about the EMS and the transformation plan is made available on the internet. Also, the results of emission monitoring for ensuring the compliance check of permit conditions will be made available to the public, including systematically via the internet. Article 14(1) of the amended IED will explicitly refer to the E-PRTR Regulation. The list of pollutants defined in Annex II of the current IED will be removed and replaced by a reference to Annex II of the E-PRTR. This reflects a certain dovetailing of the two regulations regarding activities covered and pollutants considered. It is intended to establish an IEP where relevant information on permitting and related emissions can be found. The amendment of the IED is expected to be completed in the first quarter of 2024.

In 2022, the European Commission proposed to revise the E-PRTR Regulation and transfer the E-PRTR to a new IEP. The aim of creating the IEP is to improve transparency and public access to environmental information. In addition, the scope is to be reinterpreted. It is proposed that data will no longer be collected at the facility level, but at the installation level, as in the IED. This should improve the link between the IED and the E-PRTR/IEP. In addition, it is proposed that information on the consumption and use of energy, water and raw materials will be included in the register. The new IEP includes annually reported data covered by the IED and the E-PRTR. It is expected that the list of pollutants defined in Annex II will be revised with the amendment of the E-PRTR and that additional pollutants will be added. In addition, the thresholds in Annex II will need to be adjusted or reduced, as they currently apply to operating facilities and not installations. Following the completion of the amendment of the IED, the amendment of the E-PRTR Regulation is expected.

Revising both regulations is being considered as part of the EU Green Deal and the Zero Pollution Action Plan.

4 International expert dialogue on the interfaces of ESRS E2 with the IED and E-PRTR

On November 9, 2023 an international expert dialogue with representatives from European environmental agencies and ministries was conducted to discuss the usefulness of the new corporate reporting requirements on environmental pollution under ESRS E2 and their interactions with the established regimes of the IED and the E-PRTR. The results of the dialogue are summarized in the following sections.

4.1 Preparatory online survey

In preparation for the expert dialogue a short online survey was sent to environmental agency and ministry representatives in different European member states. The aim was to understand the representatives' level of knowledge with regard to the CSRD and ESRS in general and ESRS E2 in particular. A total of 37 surveys were completed from 15 Member States (Croatia, Austria, Luxembourg, Germany, Denmark, Sweden, France, Italy, Finland, Czech Republic, Malta, Portugal, Slovakia, Poland and Estonia). Most respondents' fields of expertise were in industrial emissions (19) or environmental management (12). Some respondents had specific expertise in corporate sustainability reporting (6) or sustainable finance (5). Multiple answers per participant were possible.

Of the group of participants who said their expertise lay in the area of industrial emissions and environmental management (28), the number of respondents who had heard of the review (13) to those who had not (12) was relatively equal. Around two thirds of this group (19) indicated that they do not deal with corporate sustainability reporting in their daily work, or do so only to a limited extent. The CSRD plays a large or very large role for one third of the industrial emissions and environmental management experts. When asked about the extent to which they had already engaged with the ESRS E2, around two thirds of the respondents (17) of this expert group indicated that they had not done so or only to a limited extent. Only four respondents said they had done so to a significant extent.

The respondents that indicated their areas of expertise were in corporate sustainability reporting and sustainable finance (10) were all aware of the revision of the NFRD. For eight of them, corporate sustainability reporting already plays an important role in their daily work. However, only half of them stated that they had already addressed the new requirements, particularly ESRS E2.

The expert dialogue aimed to raise awareness on the CSRD and new reporting rules imposed by the ESRS, specifically by ESRS E2. Based on this, the participating experts discussed the potentials and obstacles for interoperability between ESRS E2, the IED and the E-PRTR Regulation, as well as possible benefits for environmental authorities from the pollution-related information to be disclosed according to ESRS E2. The expert dialogue also touched upon the role of European Eco-Management and Audit Scheme (EMAS – Regulation (EC) No 1221/2009) in managing and reporting pollutant emissions.

4.2 Expert dialogue

A total of 50 participants attended the expert dialogue, the majority of which were representatives from environmental agencies or ministries. In total, 18 countries were represented, including Austria, Belgium, Croatia, Denmark, Estonia, France, Germany, Italy, Latvia, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Sweden, Slovakia and Spain.

4.2.1 Keynotes

The event commenced with keynotes from the European Environmental Agency (EEA) and the Austrian Environment Agency. The representative of the EEA highlighted the importance of the CSRD and ESRS as part of the European Green Deal and the European Commissions' sustainable finance strategy. She also encouraged national environmental agencies to make use of the information that companies will have to report under the ESRS and to take a proactive role in the further development of the ESRS, particularly in discussing the upcoming sectoral reporting standards. The representative of the Austrian Environment Agency emphasized links between the IED, the E-PRTR Regulation, the EMAS Regulation, and ESRS E2 and pointed out potentials and barriers for interoperability between these laws. After the keynotes, the project team of adelphi provided an introduction to the CSRD, the ESRS and ESRS E2.

4.2.2 Group discussions

Based on the analysis in chapter 2 of this document, the following topics for discussion were identified for the expert dialogue:

1. The usefulness of the information disclosed under ESRS E2 for environmental authorities.
2. Technicalities of data compilation and aggregation – synergies and barriers between ESRS E2, IED and E-PRTR.
3. Reporting formats and report location – how to ensure consistent information on air, water and soil pollution?
4. Assurance and verification of reported information – the roles of environmental authorities, statutory auditors and environmental verifiers.

The participants of the expert dialogue were split into four groups, each discussing one of the topics in detail. The groups were carefully selected based on the participants' expertise and to ensure geographical diversity. To provide context and facilitate the discussion, a short thematical input was given in each group. The discussion was guided by key questions. The following is a summary of the findings.

Group 1: The usefulness of the information disclosed under ESRS E2 for environmental authorities

ESRS E2 requires undertakings to report on their policies, targets and actions as well as their pollution-related business risks, which goes beyond existing reporting requirements in environmental law. The group therefore discussed *how this additional information could be useful for the work of environmental authorities*.

The experts in Group 1 acknowledged the advantages of having the information on policies, targets, actions and risks that companies will be required to report. The main benefits for environmental authorities may lie, according to the experts, in the contextual information, the future-oriented approach as well as the qualitative data. For instance, the information on targets and the plans on how to achieve these targets would provide contextual information in addition to the quantitative information on pollutant emissions and therefore be useful to assess the undertakings' endeavours. In this sense, ESRS E2 is not merely a status quo assessment of pollution data, but can be considered a progress report for pollution prevention and control. The participants also stressed that establishing policies, targets and actions to address environmental pollution is an integral part of environmental management according to the EMAS Regulation and that the publicly available environmental statement of EMAS companies already contains such information.

However, the group also expressed potential difficulties for environmental authorities in dealing with the additional environmental information companies will report in the future. One issue mentioned was that there is currently no common understanding which data points from the ESRS could be useful for which tasks of environmental agencies. The needs of law enforcement divisions, for example, are different from those of divisions that focus on research and policy advice. Another problem stated was the lack of human resources and qualifications in environmental authorities to evaluate and assess the additional data. As a possible solution, the group proposed to join forces between European environmental agencies to define which data points from the ESRS are relevant for their needs, which would also allow them to pool data assessment capacities in the future.

Group 2: Technicalities of data compilation and aggregation

While the IED covers environmental data on the installation level (the smallest possible level) and the E-PRTR on the facility level, sustainability reporting according to ESRS E2 relates to the whole undertaking, including, if applicable, different sites and subsidiaries. Additionally, the time period for data gathering and reporting differs. Information disclosed under ESRS E2 is based on the undertaking's financial year, whereas IED and E-PRTR are referring to the calendar year, which may or may not coincide with the financial year. Group 2 focussed on these issues and discussed the following question: *Could the aggregation requirement of E-PRTR-data in ESRS E2 and the different time periods cause practical problems or hamper the usability of this information?*

As the highest and most detailed data quality is already required by the IED, the IED experts in the group did not see a need for further data from ESRS E2 for their work. In order to facilitate data collection and reporting for undertakings covered by the IED, E-PRTR and ESRS E2, it was proposed to harmonise the different reporting periods, i.e. calendar year (IED, E-PRTR) and financial year (ESRS E2), to the calendar year. Another proposal was to harmonise the reference object of the IED and the E-PRTR at the installation level, as this is the smallest and most detailed level. This would also improve the quality of the data aggregated at undertaking level in ESRS E2. As part of the current revision of the E-PRTR Regulation such a change is already planned, so that operators will be required to report at installation level in the future. However, it was also noted that this would require a clear Europe-wide definition of installations, as these vary greatly from member state to member state and only a few currently distinguish between installations and facilities.

One question that remained unanswered was what exactly happens to undertakings that have to apply ESRS E2 but are not subject to the E-PRTR Regulation. A participant from Denmark pointed out that the thresholds of the E-PRTR Regulation are very high and therefore many of the Danish industrial companies are not subject to the reporting obligation, and that this could then also be the case for ESRS E2. One suggestion was to lower the thresholds in order to cover more companies. In addition, some participants were unclear on how exactly reports according to ESRS E2 should reference to the data collected in the E-PRTR and whether environmental authorities would have to play an active role in validating the data.

The importance of support from environmental authorities in order to facilitate data collection by companies was stressed. In Italy, a guideline is being developed to show companies exactly what data should be collected and how. This will make it more likely that companies will collect high quality data. A German representative proposed to create a graphic visualisation that helps companies, authorities, the public and financial market participants. The visualisation could show the different reference objects of the IED, E-PRTR Regulation and ESRS E2, at which level which data is collected and how the data is linked to each other.

Group 3: Reporting formats and report location

Another aspect is referring to the format in which the environmental data has to be reported. In case of E-PRTR, operators concerned are reporting the data via electronic software to their competent authority, who has to verify this data and send it to the competent authority which forwards the data the European Environmental Agency using predefined templates. The data is then to be published in the European Industrial Emission Portal (IEP) and the national registers. In case of ESRS E2, undertakings have flexibility in presenting the pollution-related information. The information is part of the financial reporting and published individually by the undertaking. The CSRD requires that the sustainability information reported is machine-readable by using an electronic reporting format (XHTML). In the future the information will be submitted to the ESAP database. It is not yet clear how the data will be presented and usable since the ESAP will only be operable from 2027 onwards. Considering the revision of the E-PRTR Regulation, group 3 also discussed the question: *How will corporate air, water and soil pollution data be organized and presented to the public on the national and EU level in the future?*

When asked if, in the future, all pollution-related data could be consolidated in one platform, the experts agreed that this would not be possible, due to the different reporting formats under the IED, E-PRTR and ESRS E2. The different aggregation levels, formats and assurance procedures would overload a single system. The participants also doubted that the data submitted to a single database would be suitable for compliance assurance. For compliance with environmental law the data would have to be at least on the installation level. Further, there would be the need for the same metrics and it would have to be specified how a standardized platform could deal with qualitative data from corporate sustainability reports.

The participants also questioned the usefulness of such a system with regard to the effort of dealing with it and with regard to the public interest in the data. It seemed more reasonable to the participants to have different smaller platforms that have clear target groups such as policy makers, scientific institutions, financial institutions and the broad public. The participants also agreed that the effort and resources used by undertakings and the competent authorities have to remain reasonable.

What seemed to the experts be more useful than one system that fits all, is a harmonized “vocabulary” and metrics for the environmental data. There should be an “EU Taxonomy on environmental data” that helps to translate the requirements of the regulations into the national law to remain harmonized all over Europe. This should be a focus of the IED/IEP and E-PRTR revision in the opinion of the participants.

Group 4: Assurance and verification of reported information

Environmental data has to be checked and verified. In the case of the IED and E-PRTR Regulation competent authorities are in charge of the verification of the emissions data submitted to them. In the case of ESRS E2 the information disclosed will be audited by statutory auditors, auditing firms or, if permitted by the member state, independent assurance service providers. Group 4 discussed on the question: *Are statutory auditors competent to verify such information or is there a need for technical experts, such as EMAS environmental verifiers or environmental management auditors?*

The group argued that the verification of environmental data should ideally be carried out by the competent authorities, as they hold the necessary expertise, especially considering the complexity of verifying environmental data and the associated technical challenges. It was emphasised that the competent authorities would need resources available to create sufficient capacity to verify the data. Among other suggestions, the competence of EMAS environmental

verifiers for assuring environmental information in corporate sustainability reports was mentioned, as they already have the required expertise due to many overlaps in content with the CSRD and the ESRS. This should be considered in the transposition of the CSRD into national law and thereafter also communicated to national governments. However, as the CSRD requires not only environmental but also social and governance data to be collected and audited. One solution would be for financial auditors to work with environmental verifiers and social experts. The participants expressed general doubts as to whether the financial auditors have sufficient capacity and sustained expertise to assure the environmental data with the necessary accuracy. Moreover, participants expressed the concern that the amount of data required under the CSRD would consume much time to gather and process which could potentially affect the reliability and assurance of environmental data.

With regards to the transposition of the CSRD into national law, some differences between European countries were mentioned. In Italy it is likely that environmental verifiers and auditors will also be eligible to assure ESRS data. In Germany this is being considered, although there is strong resistance mainly due to legal issues. It is rather likely that financial auditing firms will employ environmental verifiers to enhance their own expertise.

5 Summary and Outlook

The objective of this study was the assessment of the interfaces of ESRS E2 with the IED and E-PRTR Regulation. So far, the role of ESRS in the work of environmental authorities at the European, national, and regional levels had not been systematically analysed and discussed. As such, we analysed whether the work of environmental authorities could benefit from the additional pollution-related information and whether companies could enhance efficiency in reporting by relying on already existent processes and data for complying with environment law.

The results of the short study and the subsequent expert dialogue can be summarized as follows:

First, the comparison of the IED, E-PRTR Regulation and ESRS E2 has shown commonalities but also important differences. Fully harmonising the three pieces of legislation is not very useful and is too complex. All have different purposes and target groups. Instead of attempting to harmonise them, more emphasis should be placed on coherence and consistency between them. To serve this goal, a common vocabulary, or an “EU taxonomy of environmental data”, as proposed by one of the expert dialogue participants, could be considered, which would also contribute to a consistent implementation at the national level. Moreover, pollutant emissions metrics should be made interoperable starting from the most granular level of the installation up to the level of the undertaking. This would ease data collection for operators, provide synergies in data assurance by auditors and authorities, ease data sharing and eventually also increase credibility and comparability. Also, the databases through which the pollution data will be collected and published (i.e. IEP and ESAP) should be linked.

Second, the information required by ESRS E2 will likely provide more comprehensive insights in how undertakings cause or contribute to pollution and how they (intend to) tackle it. In particular, the contextualisation of quantitative data with qualitative data on policies, targets, actions and risks can be a useful addition for environmental authorities. However, depending on the tasks and responsibilities of the authority, this information may have different degrees of relevance. Moreover, environmental authorities often lack the human resources and knowledge to analyse the additional data. For environmental authorities that have not previously dealt with financial data, some of the data requirements in the CSRD and ESRS are new. As a result, there is a need for appropriate capacity building, training and networking so that the authorities can maximise the benefits of the data and pool resources.

Third, given the number of undertakings subject to the CSRD, there is a strong and urgent need for environmental experts who can provide high quality assurance. Therefore, in addition to statutory auditors, qualified experts such as environmental verifiers under the European EMAS Regulation should also be allowed to provide assurance of ESRS data. Also, cooperation between financial auditors and environmental verifiers should be promoted to provide high quality assurance.

This study also pointed out that knowledge of environmental authorities on the CSRD and how to use the reported data is still at an early stage. It is therefore necessary to further continue the dialogue and involve environmental authorities more closely. This holds true beyond the topic of environmental pollution. In particular, the national environmental agencies could play a key role in creating suitable networks and organizing knowledge transfer.

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A Appendix

A.1 Overview of environmental ESRS structure and disclosures

Table 1: ESRS Structure and Disclosures

ESRS	Structural element	Disclosure requirement
E1 – Climate change	Governance (GOV) Strategy and Business Model (SBM)	ESRS 2 GOV-3 Integration of sustainability-related performance in incentive schemes
		E1-1 Transition plan for climate change mitigation
		Disclosure requirement related to ESRS 2 SBM-3 – Material impacts, risks and opportunities and their interaction with strategy and business model
	Impact, risk and opportunity management (IRO)	Disclosure requirement related to ESRS 2 IRO-1 – Description of the processes to identify and assess material climate-related impacts, risks and opportunities
		E1-2 – Policies related to climate change mitigation and adaptation
		E1-3 – Actions and resources in relation to climate change policies
	Metrics and Targets (MT)	E1-4 – Targets related to climate change mitigation and adaptation
		E1-5 – Energy consumption and mix
		E1-6 – Gross Scopes 1, 2, 3 and Total GHG emissions
		E1-7 – GHG removals and GHG mitigation projects financed through carbon credits
		E1-9 – Anticipated financial effects from material physical and transition risks and potential climate-related opportunities

ESRS	Structural element	Disclosure requirement
E2 - Pollution	Governance (GOV) & Strategy and Business Model (SBM)	General requirements of ESRS 2 apply
	Impact, risk and opportunity management (IRO)	Disclosure requirement related to ESRS 2 IRO-1 – Description of the processes to identify and assess material pollution-related impacts, risks and opportunities
		E2-1 – Policies related to pollution
	Metrics and Targets (MT)	E2-2 – Actions and resources related to pollution
		E2-3 – Targets related to pollution
		E2-4 – Pollution of air, water and soil
E2-5 – Substances of concern and substances of very high concern		
E3 – Water and marine resources	Governance (GOV) & Strategy and Business Model (SBM)	E2-6 – Anticipated financial effects from material pollution-related impacts, risks and opportunities
		General requirements of ESRS 2 apply
	Impact, risk and opportunity management (IRO)	Disclosure requirement related to ESRS 2 IRO-1 – Description of the processes to identify and assess material water and marine resources-related impacts, risks and opportunities
		E3-1 – Policies related to water and marine resources
	Metrics and Targets (MT)	E3-2 – Actions and resources related to water and marine resources
		E3-3 – Targets related to water and marine resources

ESRS	Structural element	Disclosure requirement
		E3-4 – Water consumption
		E3-5 – Anticipated financial effects from material water and marine resources-related impacts, risks and opportunities
E4 - Biodiversity and ecosystems	Governance (GOV) & Strategy and Business Model (SBM)	E4-1 – Transition plan and consideration of biodiversity and ecosystems in strategy and business model
		Disclosure requirement related to ESRS 2 SBM-3 Material impacts, risks, and opportunities and their interaction with strategy and business model(s)
	Impact, risk and opportunity management (IRO)	Disclosure requirement related to ESRS 2 IRO-1 Description of processes to identify and assess material biodiversity and ecosystem-related impacts, risks, dependencies and opportunities
		E4-2 – Policies related to biodiversity and ecosystems
		E4-3 – Actions and resources related to biodiversity and ecosystems
	Metrics and Targets (MT)	E4-4 – Targets related to biodiversity and ecosystems
		E4-5 – Impact metrics related to biodiversity and ecosystems change
		E4-6 – Anticipated financial effects from material biodiversity and ecosystem-related impacts, risks and opportunities
E5 – Resource use and circular economy	Governance (GOV) & Strategy and Business Model (SBM)	Governance (GOV) & Strategy and Business Model (SBM)
	Impact, risk and opportunity management (IRO)	Disclosure requirement related to ESRS 2 IRO-1 – Description of the processes to identify and assess material resource use and circular economy-related impacts, risks and opportunities
		E5-1 – Policies related to resource use and circular economy

ESRS	Structural element	Disclosure requirement
		E5-2 – Actions and resources related to resource use and circular economy
	Metrics and Targets (MT)	E5-3 – Targets related to resource use and circular economy
		E5-4 – Resource inflows
		E5-5 – Resource outflows
		E5-6 – Anticipated financial effects from material resource use and circular economy-related impacts, risks and opportunities

Source: European Commission (2023a)