

Draft Revised LSME Section 4

[quality review in progress]

Important note: The changes portrayed in this paper are intermediary versions of the Revised LSME, still subject to quality review, further streamlining of the language and verification of the approach to VC.

[draft] Revised LSME – SECTION 4 ENVIRONMENT

DISCLAIMER

Section 4 *Environment* is set out in paragraphs 1–73. The following appendices of Section 4 have the same authority as the main body of the [draft] Standard:
- *Appendix A: Application Requirements*,

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Objective

1. The objective of the Environmental Disclosures in this [draft] Standard is to provide users of sustainability statements with an understanding of the undertaking's environmental impacts and dependencies and material risks arising from those, the actions taken to address those impacts and risks, strategies for sustainability, and the short-, medium- and long-term financial effects of the material risks. This [draft] Section 4 covers Disclosure Requirements related to the following **sustainability matters** as per AR 15, Appendix A, Section 1 of this standard.
2. The objectives in paragraph 1 and the **metrics** disclosure requirements under Section 4 E1 to E5 shall be read in conjunction with Section 2 and 3 of this [draft], *General Disclosures*.
3. The undertaking shall apply the requirements in this Section, when it concludes that the corresponding topic is material (according to chapter 3.3 *Double materiality*, 3.4 *Impact materiality* and 3.5 *Financial materiality* of Section 1). Following the undertaking's assessment of the materiality of the information according to paragraph 36 of Section 1, the sustainability statement shall include those disclosures prescribed in this Section that are assessed to be material. Individual datapoints may be omitted when the corresponding information is not material and the undertaking concludes the information is not needed to meet the objective of the Disclosure Requirement.
4. The Disclosure Requirements under E1 to E5 of this Section of the [draft] Standard take into account the requirements of related EU legislation and regulation (i.e., EU Climate Law, Regulation (EU) 2019/2088 (SFDR), Regulation (EU) 2020/852 (the EU Taxonomy), Commission Delegated Regulation (EU) 2020/1818 (Climate Benchmark Regulation), and EBA Pillar 3 ESG risk disclosure requirements).

Climate Change – Disclosure Requirements (E1)

Disclosure Requirement E1-1– Energy consumption and mix

5. The objective of this Disclosure Requirement is to provide an understanding of the undertaking's total energy consumption in absolute value and the share of **renewable energy** in its overall energy mix.
6. The undertaking shall disclose the total energy consumption in MWh related to its own operations and the share (%) from renewable sources¹.

Energy intensity based on net revenue²

7. The undertaking shall provide information on the energy intensity (total energy consumption per net revenue) associated with activities in **high climate impact sectors**. The disclosure on energy intensity shall only be derived from the total energy consumption and net revenue from activities in **high climate impact sectors**.
8. The undertaking shall specify the **high climate impact sectors** that are used to determine the energy intensity required by paragraph⁹.
9. The undertaking shall disclose the reconciliation to the relevant line item or notes in the financial statements of the net revenue amount from activities in **high climate impact sectors** (the denominator in the calculation of the energy intensity required by paragraph 9). If it is not possible to provide a reconciliation after making reasonable efforts to do so, the undertaking shall provide

² This information supports the information needs of financial market participants subject to Regulation (EU) 2019/2088 as reflecting a mandatory indicator related to principal adverse impacts as set out by indicator #6 in Table 1 of Annex 1 of the related Delegated Regulation with regard to disclosure rules on sustainable investments (“Energy consumption intensity per high impact climate sector”).

² This information supports the information needs of financial market participants subject to Regulation (EU) 2019/2088 as reflecting a mandatory indicator related to principal adverse impacts as set out by indicator #6 in Table 1 of Annex 1 of the related Delegated Regulation with regard to disclosure rules on sustainable investments (“Energy consumption intensity per high impact climate sector”).

an explanation of where in the financial statements the net revenue amount from activities in high climate impact sectors can be found.³

Disclosure Requirement E1-2– Gross Scopes 1, 2, 3 and Total GHG emissions

10. The objective of the Disclosure Requirement is to provide an understanding of the direct (**Scope 1**) and indirect (**Scope 2 and 3**) impacts of the undertaking on climate change, measured as its GHG emissions to the atmosphere.
11. The undertaking shall disclose its⁴:
 - a) gross Scope 1 GHG emissions in metric tonnes of CO₂eq;
 - b) gross location-based Scope 2 GHG emissions in metric tonnes of CO₂eq and, if applicable, the gross market-based Scope 2 GHG emissions in metric tonnes of CO₂eq.;
 - c) if the undertaking is active in high climate impact sectors⁵, the gross GHG emissions of each significant Scope 3 category, in metric tonnes of CO₂eq.; and
 - d) total GHG emissions, as the sum of Scope 1, Scope 2 (using the location-based method) and the significant Scope 3 GHG emissions required by paragraphs (a) to (c) above.
12. In case of significant changes in the definition of what constitutes the reporting undertaking and its upstream and downstream **value chain**, the undertaking shall disclose these changes and explain their effect on the year-to-year comparability of its reported GHG **emissions** (i.e., the effect on the comparability of current versus previous reporting period GHG emissions).

GHG Intensity based on net revenue⁷

13. The undertaking shall disclose its GHG emissions intensity, this is, total GHG emissions per net revenue (in metric tonnes of CO₂eq per € million net revenue).

Disclosure Requirement E1-3 – GHG removals and GHG mitigation projects financed through carbon credits

14. The objective of this Disclosure Requirement is to provide an understanding:
 - a) of the undertaking's actions to permanently remove GHG from the atmosphere;
 - b) of the extent and quality of carbon credits the undertaking has purchased or intends to purchase from the voluntary market, potentially for supporting its GHG neutrality claims (as stated in paragraph 16).
15. If applicable, the undertaking shall disclose:
 - c) the total amount of CO₂eq associated with **GHG removals and storage** projects within its own operations, as well as the calculation assumptions, methodologies and frameworks applied by the undertaking
 - d) carbon credits for GHG emission reductions or removals outside its value chain that are verified against recognised quality standards and cancelled in the reporting period.

³The undertaking may omit the reconciliation with the relevant line item or notes in the financial statements of the net revenue amount from activities in high climate impact sectors information for the first year of preparation of its sustainability statement.

⁴ This information supports the information needs of financial market participants subject to Regulation (EU) 2019/2088 as reflecting a mandatory indicator related to principal adverse impacts as set out by indicators #1 and #2 in Table 1 of Annex 1 of the related Delegated Regulation with regard to disclosure rules on sustainable investments (respectively, "GHG emissions" and "Carbon footprint"). This information is aligned with the Commission Delegated Regulation (EU) 2020/1818 (Climate Benchmark Regulation), Articles 5 (1), 6 and 8 (1).

⁵ Undertakings or groups not exceeding on their balance sheet dates the average number of 50 employees during the financial year (on a consolidated basis where applicable) may omit the datapoints on Scope 3 emissions and total GHG emissions for the first year of preparation of their sustainability statement.

⁷ This information supports the information needs of financial market participants subject to Regulation (EU) 2019/2088 as reflecting a mandatory indicator related to principal adverse impacts as set out by indicator #3 in Table 1 of Annex 1 of the related Delegated Regulation with regard to disclosure rules on sustainable investments ("GHG intensity of investee companies"). This information is aligned with the Commission Delegated Regulation (EU) 2020/1818 (Climate Benchmark Regulation), Article 8 (1).

16. In the case where the undertaking has made public claims of GHG neutrality that involve the use of carbon credits, it may explain:
- Whether and how these claims are accompanied by GHG **emission reduction targets** as required by Section 2 DR 12 (IR-4);
 - whether and how these claims and the reliance on carbon credits neither impede nor reduce the achievement of its GHG emission reduction **targets**⁸, or, if applicable, its net zero target; and
 - the credibility and integrity of the **carbon credits** used, including by reference to **recognised quality standards**.

Pollution – Disclosure Requirements (E2)

Disclosure Requirement E2-1– Pollution of air, water and soil

17. The objective of this Disclosure Requirement is to provide an understanding of the undertaking's pollutants *emissions* to air, *water* and *soil* in its own operations, its generation and use of microplastics and production, use, distribution, commercialisation and import/export of *substances of concern* and *substances of very high concern* on their own, in mixtures or in articles.
18. The undertaking shall disclose the amounts of:
- each pollutant emitted to air, **water** and **soil** listed in Annex II of Regulation (EC) 2024/1244 of the European Parliament and of the Council¹⁴ (Industrial Emissions Portal "IEPR" Regulation) for which the applicable threshold value at facility level is exceeded, with the exception of emissions of **GHGs** which are disclosed in accordance with ESRS LSME ED E1 Climate Change¹⁵;
 - microplastics generated or used by the undertaking;
 - the total amounts of substances of concern that are generated or used during the production or that are procured, and the total amounts of substances of concern that leave its facilities as emissions, as products, or as part of products or services.
 - If applicable, the undertaking shall present separately from paragraph (c) the information for the total amount of substances of very high concern.

Water and Marine Resources - Disclosure Requirements (E3)

Disclosure Requirement E3-1 – Water consumption

19. The objective of this Disclosure Requirement is to provide an understanding of the undertaking's **water consumption**.
20. The undertaking shall disclose information on water consumption performance in its own operations, including:

⁸ This information is aligned with the Regulation (EU) 2021/1119 of the European Parliament and of the Council (EU Climate Law), Article 2 (1).

¹⁴ Regulation (EU) 2024/1244 of the European Parliament and of the Council of 24 April 2024 on reporting of environmental data from industrial installations, establishing [an Industrial Emissions Portal and repealing Regulation \(EC\) No 166/2006 \(Text with EEA relevance\)](#).

¹⁵ This information supports the information needs of financial market participants subject to Regulation (EU) 2019/2088 as reflecting an additional indicator related to principal adverse impacts as set out by indicator #2 in Table 2 of Annex 1 of the related Delegated Regulation with regard to disclosure rules on sustainable investments ("Emissions of air pollutants"); by indicator #8 in Table 1 of Annex 1 of the related Delegated Regulation with regard to disclosure rules on sustainable investments ("Emissions to water"). by indicator #1 in Table 2 of Annex 1 of the related Delegated Regulation with regard to disclosure rules on sustainable investments ("Emissions of inorganic pollutants"). by indicator #3 in Table 2 of Annex 1 of the related Delegated Regulation with regard to disclosure rules on sustainable investments ("Emissions of ozone-depleting substances").

- a) if applicable, total water consumption in m³;

if applicable, total water consumption in m³ in areas at material **water risk**, including **areas of high-water stress**;

21. The undertaking may disclose its total **water withdrawal**, i.e., the amount of water drawn into the boundaries of the organisation (or facility).
22. The undertaking may provide information on its **water intensity**: total **water consumption** in its own operations in m³ per million EUR net revenue¹⁷.

Biodiversity and ecosystems – Disclosure Requirements (E4)

Disclosure Requirement E4-1 – Impact metrics related to biodiversity and ecosystems change¹⁸

23. The objective of this Disclosure Requirement is to enable an understanding of the performance of the undertaking against **impacts** identified as material in the **materiality assessment** on **biodiversity** and **ecosystems** change.
24. If the undertaking has identified owned, leased or managed **sites** located in or near **biodiversity-sensitive areas** which are negatively affected (see Section 2 AR 41) by the activity of those sites, the undertaking shall disclose the number and area (in hectares) of sites in or near these **protected areas** or key **biodiversity** areas.
25. If the undertaking has concluded that it directly contributes to the **impact drivers** of **land-use change**, the undertaking shall disclose metrics related to **land-use** in units of area (e.g., m² or ha) such as:
- (a) total use of land;
 - (b) total sealed area;
 - (c) total **nature-oriented area** on-site; and
 - (d) total **nature-oriented area** off-site.
26. In addition, and considering its own operations, the undertaking may consider selecting disclosures related to land-use change, freshwater-use change and/or sea-use change based on ESRS E4 paragraph 38.

Resource use and Circular Economy – Disclosure Requirements (E5)

Disclosure Requirement E5-1 – Resource inflows

27. The objective of this Disclosure Requirement is to enable an understanding of the impacts and risks originating from the resource use in the undertaking's own operations and value chain.
28. When an undertaking assesses that resource inflows is a material sustainability matter, it shall disclose a description of its impacts and risks originating from resource inflows used in the undertaking's own operations and along its upstream value chain.

¹⁷ This information supports the information needs of financial market participants subject to Regulation (EU) 2019/2088 as reflecting an additional indicator related to principal adverse impacts as set out by indicator #6.1 in Table 2 of Annex 1 of the related Delegated Regulation with regard to disclosure rules on sustainable investments ("Water usage and recycling", 1. Average amount of water consumed by the investee companies (in cubic meters) per million EUR of revenue of investee companies).

¹⁸ Undertakings or groups not exceeding on their balance sheet dates the average number of 50 employees during the financial year (on a consolidated basis where applicable) may omit the information specified in the disclosure requirements of Section 3 and 4 related to All disclosure requirements related to Biodiversity and ecosystems for the first two years of preparation of their sustainability statement.

29. If the undertaking operates manufacturing, construction and/or packaging processes, it shall disclose for its own operations the annual mass-flow of key materials used.

Disclosure Requirement E5-2 – Resource outflows

30. The objective of this Disclosure Requirements is to understand of how the undertaking contributes to **circular economy** through its **waste** reduction and **waste management** strategy.

Waste

31. The undertaking shall disclose:
32. the total annual generation of waste broken down by type (non-hazardous and hazardous);
33. the total annual waste diverted to recycling or reuse.

Anticipated financial effects from material environmental-related matters – Disclosure Requirements (E6)

34. The objective of this Disclosure Requirement is to provide an understanding of **the anticipated financial effects** to the undertaking due to environmental-related risks. These risks arise from climate change, pollution, water and marine resources, biodiversity and ecosystems and circular economy. As part of the objective, it should be possible to understand how these risks have (or could reasonably be expected to have) a material influence on the undertaking's financial position, financial performance and cash flows over the short-, medium- and long-term.
35. For the significant assets affected by material environmental-related physical risks, the undertaking shall disclose the insurance coverages.
36. The undertaking shall disclose the energy efficiency classes (A to F, or if the building has no energy efficiency rating) of its building portfolio as number of buildings per class.
37. If applicable, the undertaking shall disclose the following percentages of its total vehicle fleet, by type of vehicle, related to the reporting period:
38. Percentage of total vehicle fleet that is classified as zero emission vehicles (ZEV) or ICE, plug-in hybrid electric vehicles or hybrid vehicles; and
39. The distribution of its total vehicle fleet compliance by EURO standard, expressed as percentages of fleet that comply with each EURO standards (EURO 1, 2, 3, 4, 5, 6 and following).
40. The undertaking shall disclose a brief description of material environmental-related **physical and transition risks** that its business operations may be exposed to, by environmental topics (climate change, pollution, water and marine resources, ecosystems and biodiversity, and circular economy).

Appendix A: Application Requirements

This Appendix is an integral part of this Section of this [draft] Standard. It supports the application of the requirements set for in paragraphs 1 to 73 and has the same authority as the other parts of this [draft] Standard.

Application Requirement – E1 to E5

AR 1. When preparing the information required to disclose metrics under E1 to E5, the undertaking may disclose the calculation assumptions and limitations, methodologies and frameworks applied by the undertaking and any changes in methodologies made over time and why they occurred. If applicable, it shall also specify whether the data is sourced from direct measurement, from sampling or extrapolation, or estimations.

AR 2. The undertaking may also describe the process and frequency of monitoring the metrics disclosed under E1 to E5.

Application Requirements-Climate Change E1

Disclosure Requirement E1-1 – Energy consumption and mix

Calculation guidance

AR 3. When preparing the information on energy consumption required under paragraph 6 the undertaking shall:

- a. only report energy consumed from processes owned or controlled by the undertaking applying the same perimeter applied for reporting GHG Scopes 1 and 2 emissions;
- b. exclude feedstocks and fuels that are not combusted for energy purposes. The undertaking that consumes fuel as feedstocks can disclose information on this consumption separately from the required disclosures;
- c. ensure all quantitative energy-related information is reported in either Mega-Watt-hours (MWh) in Lower Heating Value or net calorific value. If raw data of energy-related information is only available in energy units other than MWh (such as Giga-Joules (GJ) or British Thermal Units (Btu)), in volume units (such as cubic feet or gallons) or in mass units (such as kilograms or pounds), they shall be converted to MWh using suitable conversion factors (see for example Annex II of the Fifth Assessment IPCC report). Conversion factors for fuels shall be made transparent and applied in a consistent manner;
- d. ensure all quantitative energy-related information is reported as final energy consumption, referring to the amount of energy the undertaking actually consumes using for example the table in Annex IV of Directive 2012/27 of the European Parliament and of the Council²² on energy efficiency;
- e. avoid double counting fuel consumption when the undertaking generates electricity from either a non-renewable or renewable fuel source and then consumes the generated electricity. In such case, the energy consumption shall be counted only once under fuel consumption;
- f. not offset energy consumption even if on site generated energy is sold to and used by a third party;

²² Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC (OJL 315, 14.11.2012, p. 1).

- g. account for renewable hydrogen²³ as a renewable fuel. Hydrogen that is not completely derived from renewable sources shall be included under “fuel consumption from other non-renewable sources”; and
- h. adopt a conservative approach when splitting the electricity, steam, heat or cooling between renewable and non-renewable sources based on the approach applied to calculate market-based Scope 2 GHG emissions. The undertaking shall only consider these energy consumptions as deriving from renewable sources if the origin of the purchased energy is clearly defined in the contractual arrangements with its suppliers (renewable power purchasing agreement, standardised green electricity tariff, market instruments like Guarantee of Origin from renewable sources in Europe²⁴ or similar instruments like Renewable Energy Certificates in the US and Canada).

AR 4. The information on energy consumption and mix may be presented using the following tabular format.

Energy consumption and mix	Comparative	Year N
(1) Non-renewable energy consumption (MWh)		
(2) Consumption from renewable sources (MWh)		
Total energy consumption (MWh) (calculated as the sum of lines 1 and 2)		

Energy intensity based on net revenue

Calculation guidance

AR 5. When preparing the information on energy intensity required under paragraph 12, the undertaking shall:

- a. calculate the energy intensity ratio using the following formula:

$$\frac{\text{Total energy consumption from activities in high climate impact sectors (MWh)}}{\text{Net revenue from activities in high climate impact sectors (Monetary unit)}}$$

- b. express the total energy consumption in MWh and the net revenue in monetary units (e.g., Euros);
- c. the numerator and denominator shall only consist of the proportion of the total final energy consumption (in the numerator) and net revenue (in the denominator) that are attributable to activities in high climate impact sectors. In effect, there should be consistency in the scope of both the numerator and denominator;
- d. calculate the total energy consumption in line with the requirement in paragraph 10;
- e. calculate the net revenue in line with the accounting standards requirements applicable for the financial statements, i.e., IFRS 15 Revenue from Contracts with Customers or local GAAP requirements.

²³ Compliant with the requirements in delegated acts for hydrogen from renewable sources: Commission delegated regulation of 10 February 2023 supplementing Directive (EU) 2018/2001 of the European Parliament and of the Council by establishing a Union methodology setting out detailed rules for the production of renewable liquid and gaseous transport fuels of non-biological origin; and Commission delegated regulation of 10 February 2023 supplementing Directive (EU) 2018/2001 of the European Parliament and of the Council by establishing a minimum threshold for greenhouse gas emissions savings of recycled carbon fuels and by specifying a methodology for assessing greenhouse gas emissions savings from renewable liquid and gaseous transport fuels of non-biological origin and from recycled carbon fuel.

²⁴ Based on Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources.

AR 6. The quantitative information may be presented in the following table.

Energy intensity per net revenue	Comparative	N	% N / N-1
Total energy consumption from activities in high climate impact sectors per net revenue from activities in high climate impact sectors (MWh/Monetary unit)			

Connectivity of energy intensity based on net revenue with financial reporting information

AR 7. The reconciliation of net revenue from activities in **high climate impact sectors** to the relevant financial statements line item or disclosure (as required by paragraph 11) may be presented either:

- a. by a cross-reference to the related line item or disclosure in the financial statements; or
- b. If the net revenue cannot be directly cross-referenced to a line item or disclosure in the financial statements, by a quantitative reconciliation using the below tabular format.

Net revenue from activities in high climate impact sectors used to calculate energy intensity	
Net revenue (other)	
Total net revenue (Financial statements)	

Disclosure Requirements E1-2 – Gross Scopes 1, 2, 3 and Total GHG emissions

Calculation guidance

AR 8. When preparing the information for reporting GHG **emissions** as required by paragraph 12, the undertaking shall:

- a. consider the principles, requirements and guidance provided by the GHG Protocol Corporate Standard (version 2004). The undertaking may consider Commission Recommendation (EU) 2021/227925 or the requirements stipulated by ISO 14064-1:2018. If the undertaking already applies the GHG accounting methodology of ISO 1:2018, it shall nevertheless comply with the requirements of this standard (e.g., regarding reporting boundaries and the disclosure of market-based Scope 2 GHG emissions);

AR 9. disclose the emissions factors used to calculate or measure GHG emissions accompanied by the reasons why they were chosen, and provide a reference or link to any calculation tools used;

- a. include emissions of CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, and NF₃. Additional GHG may be considered when significant; and
- b. use the most recent Global Warming Potential (GWP) values published by the IPCC based on a 100-year time horizon to calculate CO₂eq emissions of non-CO₂ gases.

AR 10. In line with Section 1 chapter 3.7, the undertaking shall disaggregate information on its GHG emissions as appropriate. For example, the undertaking may disaggregate its Scope 1, 2, 3, or total GHG **emissions** by country, operating segments, economic activity,

²⁵ Commission Recommendation (EU) 2021/2279 of 15 December 2021 on the use of the Environmental Footprint methods to measure and communicate the life cycle environmental performance of products and organisations (OJ L 471, 30.12.2021, p.1).

subsidiary, GHG category (CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, NF₃, and other GHG considered by the undertaking) or source type (stationary combustion, mobile combustion, process emissions and fugitive emissions).

AR 11. An undertaking might have a different reporting period from some or all of the entities in its value chain. In such circumstances, the undertaking is permitted to measure its GHG emissions in accordance with paragraph 12 using information for reporting periods that are different from its own reporting period if that information is obtained from entities in its value chain with reporting periods that are different from the undertaking's reporting period, on the condition that:

- a. the undertaking uses the most recent data available from those entities in its value chain to measure and disclose its greenhouse gas emissions;
- b. the length of the reporting period is the same; and
- c. the undertaking discloses the effects of significant events and changes in circumstances (relevant to its GHG emissions) that occur between the reporting dates of the entities in its value chain and the date of the undertaking's general purpose financial statements.

AR 12. When preparing the information on gross **Scope 1 GHG emissions** required under paragraph 12(a), the undertaking shall:

- a. calculate or measure GHG emissions from stationary combustion, mobile combustion, process emissions and fugitive emissions; and use suitable activity data that include the non-renewable fuel consumption;
- b. use suitable and consistent emission factors;
- c. disclose biogenic emissions of CO₂ from the combustion or biodegradation of biomass separately from the Scope 1 GHG emissions, but include emissions of other types of GHG (in particular CH₄ and N₂O);
- d. not include any removals, or any purchased, sold or transferred carbon credits or GHG allowances in the calculation of Scope 1 GHG emissions;
- e. for activities reporting under the EU ETS, report on Scope 1 emissions following the EU ETS methodology. The EU ETS methodology may also be applied to activities in geographies and sectors that are not covered by the EU ETS;

AR 13. When preparing the information on gross **Scope 2 GHG emissions** required under paragraph 18, the undertaking shall:

- a. consider the principles and requirements of the GHG Protocol Scope 2 Guidance (version 2015, in particular the Scope 2 quality criteria in chapter 7.1 relating to contractual instruments). It may also consider Commission Recommendation (EU) 2021/2279 or the relevant requirements for the quantification of indirect GHG emissions from imported energy in EN ISO 14064-1:2018;
- b. include purchased or acquired electricity, steam, heat, and cooling consumed by the undertaking;
- c. avoid double counting of GHG emissions reported under Scope 1 or 3;
- d. apply the location-based, and, if applicable, market-based methods to calculate Scope 2 GHG emissions and provide information on the share and types of contractual instruments. Location-based method quantifies Scope 2 GHG emissions based on average energy generation emission factors for defined locations, including local, subnational, or national boundaries (GHG Protocol, "Scope 2 Guidance", Glossary, 2015). Market-based method quantifies Scope 2 GHG emissions based on GHG emissions emitted by the generators from which the reporting entity contractually purchases electricity bundled with instruments, or unbundled instruments on their own (GHG Protocol, "Scope 2 Guidance", Glossary, 2015); in this case, the undertaking may disclose the share of market-based scope 2 GHG emissions linked to

purchased electricity bundled with instruments such as Guarantee of Origins or Renewable Energy Certificates. The undertaking shall provide information about the share and types of contractual instruments used for the sale and purchase of energy bundled with attributes about the energy generation or for unbundled energy attribute claims.

- e. disclose biogenic emissions of CO₂ from the combustion or biodegradation of biomass separately from the Scope 2 GHG emissions but include emissions of other types of GHG (particularly CH₄ and N₂O). In case the emission factors applied do not separate the percentage of biomass or biogenic CO₂, the undertaking shall disclose this. In case GHG emissions other than CO₂ (particularly CH₄ and N₂O) are not available for, or excluded from, location-based grid average emissions factors or with the market-based method information, the undertaking shall disclose this; and
- f. not include any removals, or any purchased, sold or transferred carbon credits or GHG allowances in the calculation of Scope 2 GHG emissions.

AR 14. When preparing the information on gross **Scope 3 GHG emissions** required under paragraph 19, the undertaking shall:

- a. consider the principles and provisions of the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard (Version 2011); and it may consider Commission Recommendation (EU) 2021/2279 or the relevant requirements for the quantification of indirect GHG emissions from EN ISO 14064-1:2018;
- b. if it is a financial institution, consider the GHG Accounting and Reporting Standard for the Financial Industry from the Partnership for Carbon Accounting Financial (PCAF), specifically part A “Financed Emissions” (version December 2022);
- c. screen its total Scope 3 GHG emissions based on the 15 Scope 3 categories identified by the GHG Protocol Corporate Standard and GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard (Version 2011) using appropriate estimates. Alternatively, it may screen its indirect GHG emissions based on the categories provided by EN ISO 14064-1:2018 clause 5.2.4 (excluding indirect GHG emissions from imported energy);
- d. identify and disclose its significant Scope 3 categories based on the magnitude of their estimated GHG emissions and other criteria provided by GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard (Version 2011, p. 61 and 65-68) or ISO 14064-1:2018 Annex H.3.2, such as financial spend, influence, related transition risks and opportunities or stakeholder views;
- e. calculate or estimate GHG emissions in significant Scope 3 categories using suitable emissions factors;
- f. update Scope 3 GHG emissions in each significant category every year on the basis of current activity data; update the full Scope 3 GHG inventory at least every 3 years or on the occurrence of a significant event or a significant change in circumstances (a significant event or significant change in circumstances can, for example, relate to changes in the undertaking’s activities or structure, changes in the activities or structure of its upstream and downstream value chain(s), a change in calculation methodology or in the discovery of errors);
- g. disclose the extent to which the undertaking’s Scope 3 GHG emissions are measured using inputs from specific activities within the entity’s upstream and downstream value chain, and disclose the percentage of emissions calculated using primary data obtained from suppliers or other value chain partners;
- h. disclose a list of Scope 3 GHG emissions categories included in;

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- i. disclose biogenic emissions of CO₂ from the combustion or biodegradation of biomass that occur in its upstream and downstream value chain separately from the gross Scope 3 GHG emissions, and include emissions of other types of GHG (such as CH₄ and N₂O), and emissions of CO₂ that occur in the life cycle of biomass other than from combustion or biodegradation (such as GHG emissions from processing or transporting biomass) in the calculation of Scope 3 GHG emissions;
- j. not include any removals, or any purchased, sold or transferred carbon credits or GHG allowances in the calculation of Scope 3 GHG emissions;

AR 15. When preparing the information on the total **GHG emissions** required under paragraph 11d, the undertaking shall apply the following formula to calculate the total GHG emissions (location-based):

$$\begin{aligned} \text{Total GHG emissions}_{\text{location-based}} \text{ (t CO}_2\text{eq)} \\ = \text{Gross Scope 1} + \text{Gross Scope 2}_{\text{location-based}} + \text{Gross Scope 3 Total} \end{aligned}$$

AR 16. The undertaking may also disclose total GHG emissions derived from the market-based method while measuring the underlying Scope 2 GHG emissions, using the formula

$$\begin{aligned} \text{Total GHG emissions}_{\text{market-based}} \text{ (t CO}_2\text{eq)} \\ = \text{Gross Scope 1} + \text{Gross Scope 2}_{\text{market-based}} + \text{Gross Scope 3} \end{aligned}$$

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AR 17. The undertaking shall disclose its total GHG **emissions** disaggregated by Scopes 1 and 2 and significant Scope 3 in accordance with the table below.

	Retrospective				Milestones and target years			
	Base year	Compa-rative	N	% N / N-1	2025	2030	(2050)	Annual % target / Base year
Scope 1 GHG emissions								
Gross Scope 1 GHG emissions (tCO ₂ eq)								
Percentage of Scope 1 GHG emissions from regulated emission trading schemes (%)								
Scope 2 GHG emissions								
Gross location-based Scope 2 GHG emissions (tCO ₂ eq)								
Gross market-based Scope 2 GHG emissions (tCO ₂ eq) [if applicable]								
Significant Scope 3 GHG emissions*								
Total Gross indirect (Scope 3) GHG emissions (tCO ₂ eq)								
1 Purchased goods and services (if significant category)								
Optional sub-category: Cloud computing and data centre services (if significant category)								
2 Capital goods (if significant category)								
3 Fuel and energy-related activities (not included in Scope 1 or Scope 2) (if significant category)								
4 Upstream transportation and distribution (if significant category)								
5 Waste generated in operations (if significant category)								
6 Business travels (if significant category)								
7 Employee commuting (if significant category)								
8 Upstream leased assets (if significant category)								
9 Downstream transportation (if significant category)								
10 Processing of sold products (if significant category)								
11 Use of sold products (if significant category)								

12 End-of-life treatment of sold products (if significant category)								
13 Downstream leased assets (if significant category)								
14 Franchises (if significant category)								
15 Investments (if significant category)								
Total GHG emissions								
Total GHG emissions (location-based) (tCO ₂ eq)								

AR 18. The Scope 3 GHG **emissions** may also be presented by according to the indirect emission categories defined in EN ISO 14064-1:2018.

AR 19. If it is material for the undertaking's Scope 3 emissions, it shall disclose the GHG **emissions** from purchased cloud computing and data centre services as a subset of the overarching **Scope 3 category** "upstream purchased goods and services".

AR 20. When disclosing its gross greenhouse gas (GHG) emissions, the undertaking may refer to online calculators, databases and tools provided by recognised sources, such as the GHG Protocol.

GHG intensity based on net revenue

Calculation guidance

AR 21. When disclosing the information on GHG intensity based on net revenue required under paragraph 21, the undertaking shall:

- a. calculate the GHG intensity ratio by the following formula:

$$\frac{\text{Total GHG emissions (t CO}_2\text{eq)}}{\text{Net revenue (Monetary unit)}}$$

- b. express the total GHG emissions in metric tonnes of CO₂eq and the net revenue in monetary units (e.g., Euros) and present the results for the market-based and location-based method;
- c. include the total GHG emissions in the numerator and overall net revenue in the denominator;
- d. calculate the total GHG emissions as required by paragraphs 12 (d) and 21; and
- e. calculate the net revenue in line with the requirements in accounting standards applied for financial statements, i.e., IFRS 15 or local GAAP.

Connectivity of GHG intensity based on revenue with financial reporting information

AR 22. On a voluntary basis, the undertaking may disclose the reconciliation of the net revenue used to calculate GHG intensity to the relevant line item or notes in the financial statements (as required by paragraph 22) by either:

- a. a cross-reference to the related line item or disclosure in the financial statements; or
- b. if the net revenue cannot be directly cross-referenced to a line item or disclosure in the financial statements, by a quantitative reconciliation using the below tabular format.

Net revenue used to calculate GHG intensity	
--	--

Net revenue (other)	
Total net revenue (in financial statements)	

41. The undertaking may disclose the reconciliation to the relevant line item or notes in the financial statements of the net revenue amounts (the denominator in the calculation of the GHG emissions intensity required by paragraphs 21). If it is not possible to provide a reconciliation after making reasonable efforts to do so, the undertaking may provide an explanation of where in the financial statements net revenue amounts can be found.⁸
42. Small and non-complex credit institutions (see Section 1 paragraph 2b)) may replace net revenue with a different financial indicator, until a sectoral standard is established.

Disclosure Requirement E1-3 – GHG removals and GHG mitigation projects financed through carbon credits.

GHG removals and storage in own operations

AR 23. In addition to their GHG emission inventories, undertakings shall provide transparency on how and to what extent they either enhance natural sinks or apply technical solutions to remove GHGs from the atmosphere in their own operations. While there are no generally accepted concepts and methodologies for accounting for GHG removals, this [draft] Standard aims to increase transparency on the undertaking’s efforts to remove GHGs from the atmosphere (paragraph 15). The GHG removals outside the **value chain** that the undertaking supports through the purchase of **carbon credits** are to be disclosed separately as required by paragraph 1.

Calculation guidance

- AR 24. When preparing the information on **GHG removals and storage** from the undertaking’s own operations required under paragraphs 24(a) and 26, the undertaking may:
- a. break down its GHG removals and storage by removal activity;
 - b. consider, as far as applicable, the GHG Protocol Corporate Standard (version 2004), Product Standard (version 2011), Agriculture Guidance (version 2014), Land use, land-use change, and forestry Guidance for GHG project accounting (version 2006);
 - c. if applicable, explain the role of removals for its climate change mitigation policy;
 - d. include removals from operations that it owns or controls and that have not been sold to another party through carbon credits;
 - e. if applicable, mark those GHG removal activities in own operations that have been converted into carbon credits and sold to other parties on the voluntary market;
 - f. account for the GHG emissions associated with a removal activity, including transport and storage, under Disclosure Requirement E1-2 (Scopes 1, 2 or 3). To increase transparency on the efficiency of a removal activity, including transport and storage, the undertaking may disclose the GHG emissions associated with this activity (e.g., GHG emissions from electricity consumption of direct air capture technologies) alongside, but separately from, the amount of removed GHG emissions;
 - g. in case of a reversal, account for the respective GHG emissions as an offset for the removals in the reporting period;
 - h. use the most recent GWP values published by the IPCC based on a 100-year time horizon to calculate CO₂eq emissions of non-CO₂ gases and

describe the assumptions made, methodologies and frameworks applied for calculation of the amount of GHG removals.

AR 25. The quantitative information on GHG removals may be presented by using the following tabular format.

Removals	Comparative	N	% N / N-1
GHG removal activity 1 (e.g., forest restoration)	-		
GHG removal activity 2 (e.g., direct air capture)	-		
...	-		
Total GHG removals from own operations (tCO₂eq)			
GHG removal activity 1 (e.g., forest restoration)	-		
GHG removal activity 2 (e.g., direct air capture)	-		
...	-		
Reversals (tCO₂eq)			

GHG mitigation projects financed through carbon credits

AR 26. This [draft] Standard requires the undertaking to disclose whether it uses **carbon credits** separately from the GHG **emissions** (paragraphs 24(b) and 27) and GHG **emission reduction targets** (Section 3 [draft] LSME ESRS). It also requires the undertaking to show the extent of use and which quality criteria it uses for those carbon credits.

AR 27. When disclosing the information on **carbon credits** required under paragraphs 24(b) and 27, the undertaking shall disclose the following disaggregation as applicable:

- a. the share (percentage of volume) of reduction projects and removal projects;
- b. for carbon credits from removal projects, an explanation whether they are from biogenic or technological sinks;
- c. the share (percentage of volume) for each recognised quality standard;
- d. the share (percentage of volume) issued from projects in the EU; and
- e. the share (percentage of volume) that qualifies as a corresponding adjustment under Article. 6 of the Paris Agreement.

Calculation guidance

AR 28. When preparing the information on **carbon credits** required under paragraphs 24(b) and 26, the undertaking shall:

- a. if applicable, explain the role of carbon credits in its climate change mitigation policy;
- b. not include carbon credits issued from GHG emission reduction projects within its value chain, as the respective GHG emission reductions shall already be disclosed under Disclosure Requirement E1-3 (Scope 2 or Scope 3) at the time they occur (i.e., double counting is avoided);

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- c. ;
- d. ;
- e. not disclose carbon credits to reach the GHG emission reduction targets; and
- f. calculate the amount of carbon credits to be cancelled in the future, as the sum of carbon credits in metric tonnes of CO₂eq over the duration of existing contractual agreements.

AR 29. The information on **carbon credits** cancelled in the reporting year and planned to be cancelled in the future may be presented using the following tabular formats.

Carbon credits cancelled in the reporting year	Comparative	N
Total (tCO₂eq)		
Share from removal projects (%)		
Share from reduction projects (%)		
<i>Recognised quality standard 1 (%)</i>		
<i>Recognised quality standard 2 (%)</i>		
<i>Recognised quality standard 3 (%)</i>		
...		
Share from projects within the EU (%)		
Share of carbon credits that qualify as corresponding adjustments (%)		

Carbon credits planned to be cancelled in the future	Amount until [period]
Total (tCO₂eq)	

Application Requirements-Pollution (E2)

Disclosure Requirement E2-1 – Pollution of air, water and soil

- AR 30. The objective of this Disclosure Requirement is to enable an understanding of the undertaking's material risks, including exposure to those pollutants, substances and risks arising from changes in regulations.
- AR 31. Emissions of pollutants to air, water and soil Considering paragraph 38(a), if the undertaking is not required to disclose its pollutants emissions by law, but it already voluntarily reports information on such pollutants according to an Environmental Management System such as Eco-Management and Audit Scheme (EMAS), then it may choose to voluntarily disclose the pollutants it emits to air, water and soil, with the respective amounts.
- AR 32. The volume of **pollutants** shall be calculated and presented for the aggregated amount of each pollutant individually, but the mass of different pollutants shall not be added together. For example, an undertaking with two factories that emit mercury and lead, shall add the lead emission from the two factories, but not add lead and mercury emissions. The units of reporting shall be appropriate mass units, for example in tonnes or kilogrammes, depending on type and quantities of each pollutant.
- AR 33. The **metrics** to be disclosed under paragraph 38(a) refer to information that the undertaking is already mandated to provide by law. This requirement was conceived to avoid any additional reporting burden on undertakings. In general, this requirement is expected to apply to undertakings that are operators of one industrial **installation** or intensive livestock farm covered by the [Industrial and Livestock Rearing Emissions Directive \(IED 2.0\)](#), amending the [Industrial Emissions Directive \(IED\)](#). The IED 2.0 applies to some 75,000 installations in Europe covering activities such as burning fuel in boilers with rated power of more than 50 MW, metal foundries, processing of non-ferrous metals, production of lime, manufacture of ceramic products by firing, production of plant protection products or biocides, rearing of any mix of pigs or poultry representing 380 livestock units or more, tanning of hides, or slaughterhouses. In these cases, the installation must already report to the competent authority the pollutants released to air, water and **soil**, and the data is publicly available at the [Industrial Emissions Portal Regulation \(IEPR\)](#), replacing the [European Pollutant Release and Transfer Register \(E-PRTR\)](#). Companies that operate more than one facility, do not have to report on their consolidated company-wide emissions under the EPRTR, as they report only at facility level. This disclosure requirement requires to report the total amount of all the facilities. Similarly, companies owning but not operating a facility, do not have to report to the EPRTR but are expected to reflect their facility-owned emissions in their sustainability statement.
- AR 34. Likewise, if under an EMAS certification an undertaking has been identified as having to monitor and report on the pollutants listed in the E-PRTR, these are in principle relevant aspects for the undertaking to include in its sustainability report.
- AR 35. If an undertaking has only one facility or operates in only one facility, and if its pollution data is already publicly available, the undertaking may refer to the document where such information is provided instead of reporting it once again. Likewise, if the undertaking publishes an organisation-wide EMAS report that incorporates pollution data, it can include it in the sustainability report by reference.
- AR 36. To report information on pollutants in the sustainability report, the undertaking should indicate the type of pollutant material being reported alongside the amount emitted to air, water and soil in a suitable mass unit (e.g., t or kg).
- AR 37. Below can be found an example of how undertakings may present information on their emissions to air, water and soil divided by pollutant type.

Pollutant	Emissions (kg)	Medium of release (air, water, soil)
e.g., Cadmium and compounds	10	Water

Type of pollutant 2		
Type of pollutant 3		

AR 38. The information required under this Disclosure Requirement shall be provided at the level of the reporting undertaking. However, the undertaking may disclose additional breakdown including information at **site** level or a breakdown of its **emissions** by type of source, by sector or by geographical area.

AR 39. Where the undertaking’s activities are subject to Directive (EU) 2024/1785 of the European Parliament and of the Council amending Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions (IED 2.0)²⁷ and relevant Best Available Techniques Reference Documents (**BREFs**), irrespective of whether the activity takes place within the European Union or not, the undertaking may disclose the following additional information:

- a. a list of installations operated by the undertaking that fall under the IED and EU BAT Conclusions;
- b. a list of any non-compliance incidents or enforcement actions necessary to ensure compliance in case of breaches of permit conditions;
- c. 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;
- d. 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
- e. 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.

AR 40. The amounts referred in paragraph 38 shall include the emissions from those facilities over which the undertaking has financial control and those over which it has **operational control** It shall include only the emissions from facilities for which the applicable threshold value specified in Annex II of Regulation (EU) 2024/1244 is exceeded.

Microplastics

AR 41. The information to be provided on microplastics under paragraph 38(b) shall include, as a minimum, information on the microplastics amounts that the undertaking generates or uses. These refer to intentional or unintentional generation or use, both through production processes and procurement. For reporting purposes, microplastics leaving the facilities of the undertaking in the fom of products, parts of products or services, or emissions are to be considered. Microplastics that stay within the facilities, that are used in production processes and that represent inventory used for business processes need not be reported, as they do not leave the facilities.

Substances of concern and substances of very high concern

AR 42. In order for the information to be complete, **substances** in the undertaking’s own operations and those procured shall be included (e.g., embedded in ingredients, semi-finished products, or the final product).

²⁷ [Directive \(EU\) 2024/1785 of the European Parliament and of the Council of 24 April 2024 amending Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions \(integrated pollution prevention and control\) and Council Directive 1999/31/EC on the landfill of waste \(Text with EEA relevance\).](#)

- AR 43. The volume of **pollutants** shall be presented in mass units, for example tonnes or kilogrammes or other mass units appropriate for the volumes and type of pollutants being released.
- AR 44. The applicability of this Disclosure Requirement depends on the relevant regulations and legal frameworks that require monitoring of substances for management purposes.
- AR 45. As per the ESRS Glossary, Substances of Concern constitute a broader group of substances, including: (a) the Substances of Very High Concern meeting the criteria laid down in Art. 57 and 59 of the Regulation (EC) No 1907/2006 ([REACH](#)); (b) the substances classified in one of the hazard classes or hazard categories, and as listed in Part 3 (Table 3.1) of Annex VI of Regulation (EC) No 1272/2008 ([CLP](#)); (c) and the substances that negatively affect the reuse and recycling of materials in the products in which they are present, as defined in the Regulation (EU) 2024/1781 ([ESPR](#)).
- AR 46. The list of substances covered by point (a) is available by consulting the 'Candidate List of substances of very high [concern for Authorisation](#)' managed by the European Chemicals Agency (ECHA), pursuant to Article 59 (10) of the REACH Regulation. The list of substances covered by point (b) is available by consulting the table of harmonised entries in Annex VI to CLP, containing all updates³ to the harmonised classification and labelling of hazardous substances, which are available in [Table 3 of Annex VI to the CLP Regulation](#), managed by the ECHA. The ECHA also provides a database ([C&L Inventory](#)) to filter Annex VI by specific hazard classes. As for point (c), the presence of substances of concern should be traceable throughout the specific products lifecycle and constitutes one specific Ecodesign requirement (Article 5) - the information requirement shall include, among others, (i) name or numerical code of the substances present in the product; (ii) location of the substances of concern within the product; (iii) concentration, maximum concentration or concentration range of the substances of concern, at the level of the product, its relevant components, or spare parts (Article 7.5).
- AR 47. Undertakings may refer to the regulatory sources – the REACH and CLP regulations – to identify information on the definitions and lists of substances as well as for further indications on hazard classes.
- AR 48. The information provided under this Disclosure Requirement may refer to information the undertaking is already required to report under other existing legislation (i.e., Directive 2010/75/EU or Regulation (EC) No 166/2006 "E-PRTR").

Application Requirements-Water and Marine Resources (E3)

Disclosure Requirement E3-1 – Water consumption

- AR 49. The requirements on water consumption under paragraph 20 (a) and (b) may not apply for undertakings that solely withdraw water from the public water network and discharge it into the sewer (e.g. office services), while they may be applicable to undertakings whose operations imply water evaporation (e.g. drying, power production) or water being embedded in products (e.g. food production). The applicability is anyways subject to the materiality assessment of the undertaking.
- AR 50. The undertaking may disclose information on water consumption performance in its own operations, in addition to the ones required by paragraph 28, such as total water recycled and **reused** in m³ and total water stored and changes in storage in m³.
- AR 51. When disclosing information required by paragraph 22, the undertaking may provide additional intensity ratios based on other denominators.

Application Requirements-Biodiversity and ecosystems (E4)

Disclosure Requirement E4-1 – Impact metrics related to biodiversity and ecosystems change

AR 52. Methodologies available to collect data and measure the undertakings' **impacts** on **biodiversity** and **ecosystems** may be separated into three categories as follows:

- a. primary data: collected in situ using on the ground surveys;
- b. secondary data: including geospatial data layers that are overlaid with geographic location data of business activities;
- c. at the species level, data layers on the ranges of different species can be used to predict the species that may be present at different locations. This includes operation sites and sourcing locations. Different range layers will have differing levels of accuracy depending on certain factors (e.g., whether species ranges have been refined based on availability of habitat). Information on the threat status of the species, and the activities that threaten them, can provide an indication of the likely contribution that business activities may be having on driving population trends and threat status;
- d. at the ecosystem level, data layers reflecting change in the extent and condition of ecosystems can be applied, including levels of habitat fragmentation and connectivity;
- e. modelled biodiversity state data: Model-based approaches are commonly used for measuring ecosystem level indicators (e.g., extent, condition, or function). Models quantify how the magnitude of different pressures affects the state of biodiversity. These are referred to as pressure-state relationships and are based on globally collected data. Modelling results are applied locally to estimate how undertaking-level pressures will cause changes in ecosystem condition. An impact driver generally has three main characteristics: magnitude (e.g., amount of contaminant, noise intensity), spatial extent (e.g., area of land contaminated) and temporal extent (duration of persistence of contaminant).

AR 53. When disclosing metrics related to land-use as per E4-1 paragraph 25, the undertaking may use guidance provided by the Eco-Management and Audit Scheme (EMAS)²⁸:

AR 54. The undertaking may disclose, for example, land cover change, which is the physical representation of the drivers "habitat modification" and "industrial and domestic activities", i.e., the man-made or natural change of the physical properties of Earth's surface at a specific location.

AR 55. Land cover is a typical variable that can be assessed with earth observation data.

AR 56. When reporting on material **impacts** related to the **ecosystems**, the undertaking may, in addition to the extent and condition of ecosystems, also consider the functioning of ecosystems by using:

- a. a metric that measures a process or function that the ecosystem completes, or that reflects the ability of the ecosystem to undertake that specific process or function: e.g., net primary productivity, which is a measure of plant productivity based on the rate at which energy is stored by plants and made available to other species in the ecosystem. It is a core process that occurs for ecosystems to function. It is related to many factors, such as species diversity, but does not measure these factors directly; or

²⁸ As proposed by the COMMISSION REGULATION (EU) 2018/ 2026 of 19 December 2018 amending Annex IV to Regulation (EC) No 1221/2009 of the European Parliament and of the Council on the voluntary participation by organisations in a Community eco-management and audit scheme (EMAS).

- b. a metric that measures changes to the population of scientifically identified species under threat.

AR 57. At the **ecosystem** level, data layers reflecting change in the extent and condition of **ecosystems** may be applied, including levels of **habitat fragmentation** and connectivity.

Application Requirements- Resource use and Circular Economy (E5)

Disclosure Requirement E5-1 – Resource inflows

AR 58. The disclosure required by paragraph 28, a description of its impacts and risks originating from **resource inflows** used in the undertaking's own operations and along its upstream value chain, it may distinguish between: a) materials, including: i) raw materials, distinguishing between critical raw materials and rare earths; ii) **associated process materials**; iii) semi-manufactured goods or parts; b) products, including several categories such as **packaging**, IT equipment, textiles, furniture, buildings, heavy machinery, mid-weight machinery, light machinery, heavy transport, mid-weight transport, light transport and warehousing equipment; c) water; c) property, plant and equipment. When describing the relevant resource inflows that generate IROs, the undertaking shall explain what type it is referring to. Examples include raw materials (e.g. wood, ores), products (e.g. machinery), goods, semi-manufactured goods, or parts used as input into its products and services (e.g. electronic components).

AR 59. When assessing the materiality of resource inflows, the undertaking should consider both the volume or weight of specific materials and their impact on operations. The undertaking may use the following materiality ratio formula to determine if a resource inflow is material:

$$\text{ratio of specific resource inflows} = \left(\frac{\text{Volume of specific resource inflow (t)}}{\text{Total resource inflows (t)}} \right) \times 100$$

While specific thresholds for materiality may vary depending on the context and industry, inflows with higher ratios typically warrant disclosure due to their potential impact on the undertaking's sustainability and operational performance.

AR 60. The **resource inflows** to be considered for calculation of **metrics** mentioned in paragraphs 29 are the ones considered to expose the undertaking to material impacts or risks and not all resource inflows the undertaking is sourcing.

AR 61. The reported usage data are to reflect the material in its original state, and not to be presented with further data manipulation, such as reporting it as "dry weight".

Disclosure Requirement E5-2 - Resource outflows

AR 62. When reporting on the total amount of waste generated, the undertaking may also disclose the percentage of non-recycled waste (by weight and on a wet basis).²⁹

AR 63. Within the total annual generation of waste, hazardous waste is to be understood as inclusive of any waste with hazardous properties listed in Annex III of Directive 2008/98/EC, including any radioactive waste.

AR 64. The undertaking may disclose its engagement in product end-of-life **waste management**, for example through extended producer responsibility schemes or take-back schemes.

²⁹ This information supports the information needs of financial market participants subject to Regulation (EU) 2019/2088 as reflecting an additional indicator related to principal adverse impacts as set out by indicator #13 in Table 2 of Annex 1 of the related Delegated Regulation with regard to disclosure rules on sustainable investments (, "Non-recycled waste ratio").

- AR 65. When presenting information on its **waste** generation or diversion from disposal, the undertaking should preferably report such information in units of weight (e.g., kg or tonnes). Nevertheless, should it the units of weight be considered an inappropriate unit by the undertaking, they may alternatively disclose the afore-mentioned metrics in volumes (e.g., m3) instead.
- AR 66. When considering the **waste** streams relevant to its sectors or activities, the undertaking may consider the list of waste descriptions from the European Waste Catalogue. Waste marked with an asterisk (*) in the EWC is classified as hazardous, particularly if it contains substances with hazardous properties such as flammability, toxicity, or corrosiveness. Applicability depends on the presence of hazardous or radioactive materials in business processes.
- AR 67. Examples of other types of disposal operations under paragraph 65 (iii) can be found in Annex I of Directive 2008/98/EC (Waste Framework Directive).
- AR 68. Undertakings must disclose hazardous waste, including radioactive waste, if their operations involve generating such waste. Applicability depends on the presence of hazardous, including radioactive materials, in business processes.
- AR 69. When disclosing the radioactive waste ratio it should be calculated as a percentage of total hazardous waste using the formula:

$$\text{Radioactive waste ratio} = \frac{\text{Radioactive waste (t)}}{\text{Hazardous waste (t)}} \times 100$$

As an example: If a facility generates 2 tons of radioactive waste and 50 tons of hazardous waste, the radioactive waste ratio is $(2/50) \times 100 = 4\%$.

Application Requirements - Anticipated financial effects from material environmental-related matters impacts and risks(E6)

- AR 70. For each of the environmental topics for which there are material risks, the undertaking may disclose:
- a. a quantification of the anticipated financial effects in monetary terms, or where not possible with reasonable effort, qualitative information. The quantification of the anticipated financial effects in monetary terms may be a single amount or a range;
 - b. a description of the effects considered, the related impacts and dependencies to which they relate and the time horizons in which they are likely to materialise; and
 - c. the critical assumptions used to quantify the anticipated financial effects, as well as the sources and level of uncertainty attached to those assumptions.
- AR 71. In relation to the potential to benefit from material environmental-related opportunities, the undertaking may disclose its expected cost savings from environmental-related risk mitigation actions.
- AR 72. The undertaking may also provide information on how it expects its financial position, financial performance and cash flows to change over the short, medium- and long-term, given its strategy to manage risks, taking into consideration:
- a. its investment and disposal plans (for example, capital expenditure, major acquisitions and divestments, joint ventures, business transformation, innovation, new business areas and asset retirements), including plans that the undertaking is not contractually committed to; and
 - b. its planned sources of funding to implement its strategy.
- AR 73. Considering anticipated financial effects due to material opportunities related to circular economy, the undertaking may, for instance, illustrate and describe how it intends to strengthen value retention.

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AR 74. In alternative to disclosures in paragraph AR79.a on the monetary quantification of anticipated financial effects, the undertaking may classify each anticipated financial effect according to the following ranges; (a) low; (b) medium; (c) high. Examples of environmental-related (other than climate) physical and transition risks can be found in ESRS E2 AR 7. (for pollution), ESRS E3 AR 7. (for water), ESRS E4 AR 9. (for ecosystems and biodiversity) and ESRS E5 AR 5. (for circular economy).

AR 75. The undertaking may consider as part of its anticipated financial effects related to pollution:

- a. Operating and capital expenditures related to incidents and deposits (e.g., interruptions of production resulting in pollution), which may include: i) costs of eliminating and remediating the respective pollution of air, water and soil including environmental protection; ii) damage compensation costs including payment of fines and penalties imposed by regulators or government authorities.
- b. Costs related to the management of incidents which may include interruptions of production, whether arising from the supply chain and/or from own operations, which resulted in pollution.

Appendix A: Defined terms

This appendix is an integral part of this [draft] Standard.

Defined term	Definition