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V2 DRAFT EUROPEAN SUSTAINABILITY REPORTING STANDARD

V2

LSME ESRS SECTION 3 ENVIRONMENTAL DISCLOSURES

DISCLAIMER (to be revised)

[Section 3 Environmental Disclosures](#) set out in **paragraphs xx to xx and** Appendices A: *Defined terms* and Appendix B: *Application Requirements*. Appendices A and B have the same authority as the main body of the [draft] Standard. Each Disclosure Requirement is stated in a bold paragraph, followed by a paragraph that illustrates the objective of the disclosures. The [draft] Standard also uses terms defined in other [draft] ESRS and should be read in the context of its objective.

CONTENT AND STATUS OF THIS DRAFT

This draft has to be read in conjunction with the Agenda Papers on LSME discussed in SR TEG and SRB meeting in January 2023.

This draft has been developed as a markup from [draft] ESRS (November 2022).

Parts in yellow are to be adjusted.

Parts in grey are to be discussed with EFRAG SR TEG to assess whether they could further simplified.

To reflect the principle of proportionality, the following key simplifications have been implemented in this document (on the basis of the SR TEG discussions/ approach presented by the EFRAG Secretariat at those meetings):

- The text of SET 1 standards has been integrally considered and amended where appropriate.
- The disclosures on policies, actions and targets related to environment have been centralised in Section II General Disclosures under Disclosure Requirement IR-3 – Policies adopted to manage material sustainability matters, Disclosure Requirement IR-4 – Actions and resources in relation to sustainability matters, and Voluntary Disclosure IR-5 – Targets in relation to sustainability matters.
- Following the decision tree presented previously to the SR TEG, only metrics have been kept in this topical section. Originally, only metrics related to SFDR PAIs, Pillar III EBA and Benchmark regulation requirements were considered. However, the working paper has included also those metrics that impact the cap of the value chain for Set 1 (such as E1-4 GHG removals, E2-2 Substances of concern and substances of very high concern, in E5-2 the disclosure on hazardous and non-hazardous waste). Other metrics have been kept for alignment with the proposal from Cluster 8 on a Voluntary SME ESRS (such as E5-1 Resource inflows).

Following the SR TEG meeting on 21 February the following specific changes have been introduced:

- The DRs concerning financial effects for E2, E3, E4 and E5 have been centralised in section 2. The DR E1-5 (financial effects from material physical and transition risks and potential climate-related opportunities) is maintained in the topical section due to the level of granularity and the many datapoints related to EU law (Pillar 3 and Benchmark), no further simplification could be achieved.
- DR E1-5, E4-1 and E4-5 have been further simplified
- The examples of metrics related to E4-5 to be added in the Ars are pending

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Objective

1. The objective of the Environmental Disclosures in this[draft] Standard is to specify Disclosure Requirements which will enable users of sustainability statements to understand:
 - (a) For Climate Change (E1):
 - i. how the undertaking affects climate change, in terms of material positive and negative actual and potential impacts;
 - ii. the undertaking's past, current, and future mitigation efforts in line with the Paris Agreement (or an updated international agreement on climate change) and limiting global warming to 1.5°C;
 - iii. the plans and capacity of the undertaking to adapt its strategy business model(s) and in line with the transition to a sustainable economy and to contribute to limiting global warming to 1.5°C;
 - iv. any other actions taken by the undertaking, and the result of such actions to prevent, mitigate or remediate actual or potential negative impacts;
 - v. the nature, type and extent of the undertaking's material risks and opportunities arising from the undertaking's impacts and dependencies on climate change, and how the undertaking manages them; and
 - vi. the financial effects on the undertaking over the short-, medium- and long-term time horizons of risks and opportunities arising from the undertaking's impacts and dependencies on climate change.
 - vii. This [draft] Section under E1 covers Disclosure Requirements related to the following sustainability matters: "Climate change mitigation", "Climate change adaptation" and "Energy".
 - viii. Climate change mitigation relates to the undertaking's endeavours to the general process of holding the increase in the global average temperature to well below 2 °C and pursuing efforts to limit it to 1,5 °C above pre-industrial levels, as laid down in the Paris Agreement. This [draft] Standard covers disclosure requirements related but not limited to the seven Greenhouse Gases (GHG) carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PCFs), sulphur hexafluoride (SF₆) and nitrogen trifluoride (NF₃). It also covers Disclosure Requirements on how the undertaking addresses its GHG emissions as well as the associated transition risks.
 - ix. "Climate change adaptation" relates to the undertaking's process of adjustment to actual and expected climate change.
 - x. This [draft] Standard covers Disclosure Requirements regarding climate-related hazards that can lead to physical climate risks for the undertaking and its adaptation solutions to reduce these risks. It also covers transition risks arising from the needed adaptation to climate-related hazards.
 - xi. The requirements related to "Energy" cover all types of energy production and consumption.
 - (b) For Pollution (E2):
 - i. how the undertaking affects pollution of air, water and soil, in terms of material negative actual or potential impacts;
 - ii. any actions taken, and the result of such actions, to prevent or mitigate actual or potential material negative impacts;
 - iii. the plans and capacity of the undertaking to adapt its strategy and business model(s) in line with the transition to a sustainable economy concurring with the needs for prevention, control and elimination of pollution. This is to create a toxic-free environment with zero pollution also in support of the EU Action Plan "Towards a Zero Pollution for Air, Water and Soil";

- iv. the nature, type and extent of the undertaking's material risks related to the undertaking's pollution-related impacts as well as the prevention, control, or reduction of pollution (including from regulations) and how the undertaking manages this;
 - v. This [draft] Standard sets out Disclosure Requirements related to the following sustainability matters: pollution of air, water, soil, substances of concern, including substances of very high concern.
 - vi. The sustainability matter "pollution of air" covers information related to the undertaking's emissions into air (both indoor and outdoor), and prevention, control and reduction of such emissions and thus pollution.
 - vii. The sustainability matter "pollution of water" covers information related to the undertaking's emissions to water, and prevention, control and reduction of such emissions and thereby pollution.
 - viii. The sustainability matter "pollution of soil" covers information related to the undertaking's emissions into soil and the prevention, control and reduction of such emissions and thereby pollution.
 - ix. The sustainability matter "substances of concern" cover information related to the undertaking's production, use and/or distribution and commercialisation of substances of concern, including substances of very high concern.
- (c) For Water and Marine resources (E3):
- i. how the undertaking affects water and marine resources, in terms of material negative actual or potential impacts;
 - ii. any actions taken, and the result of such actions to prevent or mitigate material actual or potential negative impacts and to protect water and marine resources, also with reference to reduction of water consumption;
 - iii. whether, how and to what extent the undertaking is contributing to the European Green Deal's ambitions for fresh air, clean water, a healthy soil and biodiversity as well as to ensuring the sustainability of the blue economy and fisheries sectors. Other initiatives include: the EU water framework directive, the EU marine strategy framework, the EU maritime spatial planning directive, the SDGs 6 Clean water and sanitation and 14 Life below water, and respect of global environmental limits (e.g. the biosphere integrity, ocean acidification, freshwater use, and biogeochemical flows planetary boundaries) in line with the vision for 2050 of "living well within the ecological limits of our planet" set out in the 7th Environmental Action Programme, and in the proposal for a decision of the European Parliament and the Council on the 8th Environmental Action Programme;
 - iv. the nature, type and extent of the undertaking's material risks on water and marine resources, and how the undertaking manages them; and
 - v. This [draft] Section under E3 sets out Disclosure Requirements related to water and marine resources. The sustainability matter 'water' covers the undertaking's relationship with water in its own operations, upstream and downstream value chain, in terms of impacts, risks and opportunities and how it effectively addresses these issues. Water covers surface water, groundwater and produced water. This covers where and how much water is consumed for the undertaking's activities, products and services and what are the water-related impacts caused or contributed to by the undertaking. It also covers how the undertaking is exposed to water-related risks.
 - vi. The sustainability matter "marine resources" covers the undertaking's relationship with marine resources in its own operations, upstream and downstream value chain, in terms of impacts, risks and opportunities and how it effectively addresses these issues. These cover the use of ocean-

based resources, discharges and emissions to the environment which end up in the oceans, or activities located in maritime (naval matters) areas.

- (d) For Biodiversity and Ecosystems (E4)
- i. how the undertaking affects biodiversity and ecosystems, in terms of material negative, actual and potential impacts;
 - ii. any actions taken, and the result of such actions, to prevent or mitigate material negative actual or potential impacts and to protect and restore biodiversity and ecosystems; and
 - iii. the plans and capacity of the undertaking to adapt its strategy and business model(s) in line with (i) respecting the planetary boundaries of the biosphere integrity and land-system change , [(ii) targets outlined in the Post-2020 Global Biodiversity Framework of no net loss by 2030, net gain from 2030 and full recovery by 2050,] the EU Biodiversity Strategy for 2030 with the targets set under the EU Nature Restoration Plan and Enabling Transformative Change and comparable amended or new frameworks and strategies; and
 - iv. the nature, type and extent of the undertaking’s material risks on biodiversity and ecosystems, and how the undertaking manages them; and
 - v. This [draft] Section under E4 sets out Disclosure Requirements related to the undertaking’s relationship to terrestrial, freshwater and marine habitats, ecosystems and populations of related fauna and flora species, including diversity within species, between species and of ecosystems and their interrelation with indigenous and affected communities .
 - vi. The sustainability matter ‘biological diversity’ covers the variability among living organisms from all sources including, inter alia, terrestrial, freshwater, marine and other aquatic ecosystems and the ecological complexes of which they are part. An environmental limit is usually interpreted as the point or range of conditions beyond which there is a significant risk of abrupt irreversible, or difficult to reverse, changes to the benefits derived from natural resource systems with impacts on human well-being (e.g., planetary boundaries).
- (e) For Circular Economy (E5)
- i. how the undertaking affects resource use, including the depletion of non-renewable resources and the regenerative production of renewable resources (referred to in this [draft] Standard as “resource use and circular economy”) in terms of material negative actual or potential impacts;
 - ii. any actions taken, and the result of such actions, to prevent or mitigate actual or potential material negative impacts arising from resource use and circular economy, including its measures to help decoupling its economic growth from the use of materials;
 - iii. the plans and capacity of the undertaking to adapt its strategy and business model(s) in line with circular economy principles including but not limited to minimising waste, maintaining the value of products, materials and other resources at their highest value and enhancing their efficient use in production and consumption;
 - iv. the nature, type and extent of the undertaking’s material risks arising from resource use and circular economy, and how the undertaking manages them; and
 - v. This [draft] Section under E5 sets out Disclosure Requirements related to “resource use” and “circular economy” and in particular on:
 - vi. resource inflows including the circularity of material resource inflows, considering renewable and non-renewable resources; and
 - vii. resource outflows including information on products and materials; and

- viii. waste.
- ix. Circular economy means an economic system whereby the value of products, materials and other resources in the economy is maintained for as long as possible, enhancing their efficient use in production and consumption, thereby reducing the environmental impact of their use, minimising waste and the release of hazardous substances at all stages of their life cycle, including through the application of the waste hierarchy. The goal is to maximise and maintain the value of the resources, products and materials by creating a system that allows for renewability, long life optimal use or re-use, refurbishment, remanufacturing, recycling and biodegradation.
 - x. This [draft] Standard also builds on existing EU legislative frameworks and policies which are referred to in this [draft] Standard (see below): the EU Green Deal, EU Circular Economy Action Plan , the Waste Framework directive and the EU industrial strategy.
 - xi. To evaluate the transition from a “business as usual” to a circular economic system, this [draft] Standard relies on the identification of resources, materials and products physical flows used by the undertaking through Disclosure Requirement E5-4 Resource inflows and Disclosure Requirement E5-5 Resource outflows.
2. The 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.
3. The objectives in par. 1 and the metrics disclosure requirements under E1-E5 shall be read in conjunction with Section 2 of this [draft], General Disclosures.

ESRS E1 Climate CHANGE

Disclosure Requirements – Climate Change (E1)

Disclosure Requirement E1-1 – Transition plan for climate change mitigation

4. **The undertaking shall disclose its transition plan for climate change mitigation¹, if it has adopted GHG emissions reduction targets.**
5. The objective of this Disclosure Requirement is to enable an understanding of the undertaking's past, current, and future mitigation efforts to ensure that its strategy and business model(s) are compatible with the transition to a sustainable economy, and with the limiting of global warming to 1.5 °C in line with the Paris Agreement and with the objective of achieving climate neutrality by 2050 and, where relevant, the undertaking's exposure to coal, oil and gas-related activities.
6. **The information required by paragraph 4 shall include:**
 - (a) by reference to GHG emission reduction targets (as required by General Disclosure Section 2 Voluntary Disclosure IR-5) an explanation of how the undertaking's targets are compatible with the limiting of global warming to 1.5°C in line with the Paris Agreement;
 - (b) by reference to climate change mitigation actions (as required by General Disclosure Section 2, Disclosure Requirement IR-4), an explanation of the decarbonisation levers identified, and key actions planned, including changes in the undertaking's product and service portfolio and its adoption of new technologies;
 - (c) by reference to the climate change mitigation actions, an explanation of the undertaking's investments and funding supporting the implementation of the transition plan;
 - (d)
 - (e) if applicable, an explanation of the undertaking's objective for aligning its economic activities (revenues) with the Taxonomy Regulation (EU) 2020/852 including any delegated regulations related to climate change mitigation and adaptation and its plans for future Taxonomy alignment (revenues, CapEx and CapEx plans);
 - (f) **a disclosure on whether or not the undertaking is excluded from the EU Paris-aligned Benchmarks;**
7. In case the undertaking does not have a transition plan in place, it shall indicate whether and, if so, when it will adopt a transition plan.

Disclosure Requirement E1-1– Energy consumption and mix

8. **The undertaking shall provide information on its energy consumption and mix.**
9. The objective of this Disclosure Requirement is to provide an understanding of the undertaking's total energy consumption in absolute value, improvement in energy efficiency, exposure to coal, oil and gas-related activities, and the share of renewable energy in its overall energy mix.
10. The disclosure required by paragraph 8 shall include the total energy consumption in MWh related to own operations as follows:

¹ This information is aligned with the Regulation (EU) 2021/1119 of the European Parliament and of the Council (EU Climate Law), Article 2 (1); and with the Commission Delegated Regulation (EU) 2020/1818 (Climate Benchmark Regulation), Article 2.

(a) total energy consumption from non-renewable sources for high climate impact² sectors disaggregated by³:

- i. fuel consumption from coal and coal products;
- ii. fuel consumption from crude oil and petroleum products;
- iii. fuel consumption from natural gas;
- iv. fuel consumption from other non-renewable sources;
- v. consumption from nuclear products; and
- vi. consumption of purchased or acquired electricity, heat, steam, and cooling from non-renewable sources; and

11. In addition, where applicable, the undertaking shall disaggregate and disclose separately its non-renewable energy production and renewable energy production in MWh.⁴

Energy intensity based on net revenue⁵

- 12. The undertaking shall provide information on the energy intensity (total energy consumption per net revenue) associated with activities in high climate impact sectors.
- 13. The disclosure on energy intensity required by paragraph 13 shall only be derived from the total energy consumption and net revenue from activities in high climate impact sectors.
- 14. The undertaking shall specify the high climate impact sectors that are used to determine the energy intensity required by paragraph 13.
- 15. 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 13).

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

16. The undertaking shall disclose its⁶:

- (a) gross Scope 1 GHG emissions;**
- (b) gross Scope 2 GHG emissions;**

2 High climate impact sectors are those listed in NACE Sections A to H and Section L (as defined in the Regulation (EU) 2019/2088 and Annex 1 of the related Delegated Regulation with regard to disclosure rules on sustainable investments).

3 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 #5 in Table 1 of Annex 1 of the related Delegated Regulation with regard to disclosure rules on sustainable investments (respectively “Share of non-renewable energy consumption and production”). The breakdown serves as a reference for an additional indicator related to principal adverse impacts as set out by indicator #5 in Table 2 of the same Annex (respectively “Breakdown of energy consumption by type of non-renewable sources of energy”). 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 #5 in Table 1 of Annex 1 of the related Delegated Regulation with regard to disclosure rules on sustainable investments (respectively “Share of non-renewable energy consumption and production”).

5 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 (respectively “Energy consumption intensity per high impact climate sector”).

6 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).

(c) gross Scope 3 GHG emissions; and

(d) total GHG emissions.

17. The objective of the Disclosure Requirement in paragraph 16 in respect of:
 - (a) gross Scope 1 GHG emissions as required by paragraph 16 (a) is to provide an understanding of the direct impacts of the undertaking on climate change and the proportion of its total GHG emissions that are regulated under emission trading schemes.
 - (b) gross Scope 2 GHG emissions as required by paragraph 16 (b) 16(b) is to provide an understanding of the indirect impacts on climate change caused by the undertaking's consumed energy whether externally purchased or acquired.
 - (c) gross Scope 3 GHG emissions as required by paragraph 16 (c) is to provide an understanding of the GHG emissions that occur in the undertaking's value chain beyond its Scope 1 and 2 GHG emissions. For many undertakings, Scope 3 GHG emissions may be the main component of the GHG inventory and are an important driver of the undertaking's transition risks.
 - (d) total GHG emissions as required by paragraph 16(d) is to provide an overall understanding of the undertaking's GHG emissions and whether they occur from its own operations or the value chain. This disclosure is a prerequisite for measuring progress towards reducing GHG emissions in accordance with the undertaking's climate-related targets and EU policy goals.
18. The information from this Disclosure Requirement is also needed to understand the undertaking's climate-related transition risks.
19. When disclosing the information on GHG emissions required under paragraph 11, the undertaking shall be consistent with the requirements of defining the reporting undertaking and its value chain under [draft] LSME ESRS section 1 Reporting undertaking and value chain. The undertaking shall explain the accounting for GHG emissions from its associates, joint ventures, unconsolidated subsidiaries (investment entities) and contractual arrangements in joint arrangements that are not structured through an entity (i.e., jointly controlled operations and assets). These entities and arrangements can be part of the undertaking's value chain.
20. In case of significant changes in the definition of what constitutes the reporting undertaking and its 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).
21. The disclosure on gross Scope 1 GHG emissions required by paragraph (a) shall include:
 - (a) the gross Scope 1 GHG emissions in metric tonnes of CO₂eq; and
 - (b) the percentage of Scope 1 GHG emissions from regulated emission trading schemes.
22. The disclosure on gross Scope 2 GHG emissions required by paragraph (b) shall include:
 - (a) the gross location-based Scope 2 GHG emissions in metric tonnes of CO₂eq; and
 - (b) the gross market-based Scope 2 GHG emissions in metric tonnes of CO₂eq.
23. For Scope 1 and Scope 2 emissions disclosed as required by paragraphs (a) and (b), the undertaking shall disaggregate the information, separately disclosing emissions from:
 - (a) the consolidated accounting group entities (i.e., the parent and subsidiaries for which it has financial control) that are subject to full consolidation in the group financial statements; and
 - (b) associates, joint ventures, unconsolidated subsidiaries, and jointly controlled operations and assets that are not subject to full consolidation in the group financial statements but for which the undertaking has operational control (i.e., the ability to control the operational activities and relationships).
24. The disclosure of gross Scope 3 GHG emissions required by paragraph (c) shall include GHG emissions in metric tonnes of CO₂eq from each significant Scope 3 category (i.e., each Scope 3 category that is a priority for the undertaking).

25. The disclosure of total GHG emissions required by paragraph (d) shall be the sum of Scope 1, 2 and 3 GHG emissions required by paragraphs (a) to (c). The total GHG emissions shall be disclosed with a disaggregation that makes a distinction of:

- (a) the total GHG emissions derived from the underlying Scope 2 GHG emissions being measured using the location-based method; and
- (b) the total GHG emissions derived from the underlying Scope 2 GHG emissions being measured using the market-based method.

GHG Intensity based on net revenue⁷

- 26. The undertaking shall disclose its GHG emissions intensity (total GHG emissions per net revenue).
- 27. The disclosure on GHG intensity required by paragraph 24 shall provide the total GHG emissions in metric tonnes of CO₂eq (required by paragraph (d)) per net revenue.
- 28. The undertaking shall 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 paragraph 26).

Disclosure Requirement E1-4 – GHG removals and GHG mitigation projects financed through carbon credits

29. The undertaking shall disclose:

Any GHG removals and GHG mitigation projects it may have financed through any purchase of carbon credits.

- 30. **Error! Reference source not found.**The objective of this Disclosure is to provide transparency and comparable information on the undertaking's actions to permanently remove GHG from the atmosphere or finance GHG mitigation projects through the purchase of carbon credits, potentially for achieving net-zero targets or supporting GHG neutrality claims.
- 31. The disclosure on GHG removals and storage required by paragraph 24 shall include, if applicable:
 - (a) the total amount of GHG removals and storage in metric tonnes of CO₂eq disaggregated and separately disclosed for the amount related to the undertaking's own operations and its value chain, and broken down by removal activity; and
 - (b) the calculation assumptions, methodologies and frameworks applied by the undertaking.
- 32. In addition to reporting on its gross GHG emission reduction targets, the undertaking may have made public claims of GHG neutrality that involve the use of carbon credits by reference to the information disclosed under paragraph 28. In such a case, the undertaking shall explain the credibility and integrity of the carbon credits used, and whether and how its claims of GHG neutrality neither impede nor reduce the achievement of its GHG emission reduction targets.**Error! Reference source not found.**⁸

Disclosure Requirement E1-5– Potential financial effects from material physical and transition risks and potential climate-related opportunities

32. The undertaking shall disclose its

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 (respectively “GHG intensity of investee companies”). This information is aligned with the Commission Delegated Regulation (EU) 2020/1818 (Climate Benchmark Regulation), Article 8 (1).

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).

(a) potential financial effects from material physical risks;

(b) potential financial effects from material transition risks.

33. The information required by paragraph 32 differs from and is in addition to the information on the current/past financial effects reflected in the financial statements required under [draft] Section 2 SBM-3. The objective of this Disclosure Requirement related to:
- (a) potential financial effects due to material physical and transition risks is to provide an understanding of how these risks have a material influence (or are likely to have a material influence) on the undertaking's cash flows, performance, position, development, cost of capital or access to finance over the short-, medium- and long-term time horizons. Potential financial effects from these risks include financial effects that do not meet the recognition criteria for inclusion in the line items and notes to the financial statements. The results of scenario analysis used to conduct resilience analysis should inform the assessment of potential financial effects from material physical and transition risks.
34. The disclosure of potential financial effects from material physical risks required by paragraph [Error! Reference source not found.](#) shall include⁹:
- (a) the monetary amount and proportion (percentage) of assets at material physical risk over the short-, medium- and long-term time horizons; with the monetary amounts of these assets disaggregated by acute and chronic physical risk¹⁰;
 - (b) the proportion of assets at material physical risk addressed by the climate change adaptation actions;
 - (c) the location of significant assets at material physical risk¹¹; and
 - (d) the monetary amount and proportion (percentage) of net revenue from its business activities at material physical risk over the short-, medium- and long-term time horizons.
35. The disclosure of potential financial effects from material transition risk required by paragraph [Error! Reference source not found.](#) shall include:
- (a) the monetary amount and proportion (percentage) of assets at material transition risk over the short-, medium- and long-term time horizons;
 - (b) the proportion of assets at material transition risk addressed by the climate change mitigation actions;
 - (c) a breakdown of the carrying value of its real estate assets by energy-efficiency classes¹²;
 - (d) liabilities that may have to be recognised in financial statements over the short-, medium- and long-term time horizons; and
 - (e) the monetary amount and proportion (percentage) of net revenue from its business activities at material transition risk over the short-, medium- and long-term time horizons including, where relevant, the net revenue from the undertaking's customers operating in coal, oil and gas-related activities¹³;
36. The undertaking shall disclose reconciliations to the relevant line items or notes in the financial statements of the following:

⁹ This information is aligned with the Commission Delegated Regulation (EU) 2020/1816 (Climate Benchmark Regulation), Annex II.

¹⁰ This disclosure requirement is consistent with the requirements included in EBA Pillar 3 ITS - [Template 5: Banking book - Climate change physical risk: Exposures subject to physical risk.](#)

¹¹ This disclosure requirement is consistent with the requirements included in EBA Pillar 3 ITS - [Template 5: Banking book - Climate change physical risk: Exposures subject to physical risk](#)

¹² This disclosure requirement is consistent with the requirements included in EBA Pillar 3 ITS - [Template 2: Banking book - Climate change transition risk: Loans collateralised by immovable property - Energy efficiency of the collateral](#)

¹³ This disclosure requirement is consistent with the requirements included in EBA Pillar 3 ITS - [Template 2: Banking book - Climate change transition risk: Loans collateralised by immovable property - Energy efficiency of the collateral](#)

- (f) significant amounts of the assets and net revenue at material physical risk (as required by paragraph 34).
 - (g) significant amounts of the assets, liabilities, and net revenue at material transition risk (as required by paragraph 35).
- 37. The undertaking may disclose its potential to pursue material climate-related opportunities, to enable an understanding of how the undertaking may financially benefit from material climate-related opportunities. This disclosure is complementary to the information requested under the Taxonomy Regulation.
- 38. For the disclosure of potential to pursue climate-related opportunities required by paragraph 37, the undertaking may consider¹⁴:
 - (h) its expected cost savings from climate change mitigation and adaptation actions; and the potential market size or expected changes to net revenue from low-carbon products and services or adaptation solutions to which the undertaking has or may have access.

¹⁴ This information is aligned with the Commission Delegated Regulation (EU) 2020/1816 (Climate Benchmark Regulation), Annex II.

ESRS E2 Pollution

Disclosure Requirement – Pollution (E2)

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

39. **The undertaking shall disclose the pollutants that are generated or used during production processes or that are procured, and that leave its facilities as emissions, as products, or as part of products or services.**
40. The objective of this Disclosure Requirement is to provide an understanding of the emissions that the undertaking generates in the air, water and soil in its own operations.
41. The undertaking shall provide the following separate disclosures on its own operations for the reporting period:
- (a) emissions of air pollutants generated by the undertaking¹⁵;
 - (b) emissions to water generated by the undertaking¹⁶;
 - (c) emissions of inorganic pollutants generated by the undertaking¹⁷;
 - (d) emissions of ozone-depleting substances generated by the undertaking¹⁸;
42. The undertaking shall put its disclosure into context and describe:
- (a) the changes over time,
 - (b) the measurement methodologies; and
 - (c) the process(es) to collect data for pollution-related accounting and reporting, including the type of data needed and the information sources.
43. When an inferior methodology compared to direct measurement of emissions is chosen to quantify emissions, the reasons for choosing this inferior methodology shall be outlined by the undertaking. If the undertaking uses estimates, it shall disclose the standard, sectoral study or sources which form the basis of its estimates, as well as the possible degree of uncertainty and the range of estimates reflecting the measurement uncertainty.

Disclosure Requirement E2-2 – Substances of concern and substances of very high concern

44. The undertaking shall disclose information on the 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.

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 (respectively “Emissions of air pollutants”).

16 This information supports the information needs of financial market participants subject to Regulation (EU) 2019/2088 as reflecting an indicator related to principal adverse impacts as set out by indicator #8 in Table 1 of Annex 1 of the related Delegated Regulation with regard to disclosure rules on sustainable investments (respectively “Emissions to water”).

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 #1 in Table 2 of Annex 1 of the related Delegated Regulation with regard to disclosure rules on sustainable investments (respectively “Emissions of inorganic pollutants”).

18 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 #3 in Table 2 of Annex 1 of the related Delegated Regulation with regard to disclosure rules on sustainable investments (respectively “Emissions of ozone-depleting substances”).

45. The objective of this Disclosure Requirement is to enable an understanding of the impact of the undertaking on health and the environment through substances of concern and substances of very high concern on their own. It is also to enable an understanding of the undertaking's material risks and opportunities, including exposure towards those substances and risks arising from changes in regulations.

46. The disclosure required by paragraph 43 shall include the total amounts of substances of concern that are generated or used during the production or that are procured, and that leave its facilities as emissions, as products, or as part of products or services split into main hazard classes of substances of concern.

The undertaking shall present separately information related to substances of very high concern.

ESRS E3 Water and Marine

Resources

Disclosure Requirements-Water and Marine Resources (E3)

Disclosure Requirement E3- 1 – Water consumption

47. The undertaking shall disclose information on its water consumption performance related to its material impacts, risks and opportunities.
48. The objective of this Disclosure Requirement is to provide an understanding of the undertaking's water cycle at its level and any progress by the undertaking in relation to its targets.
49. The disclosure required by paragraph 42 relates to own operations and shall include:
 - (a) total water consumption in m³;
 - (b) total water consumption in m³ in areas at material water risk, including areas of high-water stress;
 - (c) any contextual information necessary regarding the local basins' water quality and quantity, how the data have been compiled, such as any standards, methodologies, and assumptions used, including whether the information is calculated, estimated, modelled, or sourced from direct measurements, and the approach taken for this, such as the use of any sector-specific factors.
50. The undertaking shall also include:
 - (a) total water recycled and reused in m³; ¹⁹
 - (b) contextual information related to points (a)
51. The undertaking shall provide information on its water intensity: total water consumption in m³ per net revenue on own operations²⁰.

~~Disclosure Requirement related to [draft] ESRS 2 SBM-3 – Material impacts, risks and opportunities and their interaction with strategy and business model(s)~~

¹⁹ 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 #6.2 in Table 2 of Annex 1 of the related Delegated Regulation regarding disclosure rules on sustainable investments (respectively "Water usage and recycling", 2. Weighted average percentage of water recycled and reused by investee companies).

²⁰ 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 (respectively "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).

ESRS E4 Biodiversity

Disclosure Requirements-Biodiversity (E4)

Disclosure Requirement E4-1 – Transition plan on biodiversity and ecosystems

52. **the undertaking shall disclose its transition plan on biodiversity and ecosystems, if it has adopted related targets. The transition plan ensures that its business model and strategy are compatible with the respect of planetary boundaries of the biosphere integrity and land-system change and relevant targets outlined in [the Post-2020 Global Biodiversity Framework of no net loss by 2030, net gain from 2030, full recovery by 2050, and the EU Biodiversity Strategy for 2030.**
53. The objective of this Disclosure Requirement is to enable an understanding of the compatibility of the transition plan of the undertaking with regard relevant local, national and global ecological thresholds and boundaries as well as public policy targets related to biodiversity and ecosystems.
54. Based on the list of priority sectors provided by the Taskforce on Nature-related Financial Disclosures (TNFD)²¹, this Disclosure Requirement is mandatory for undertakings in the following industries Agriculture and Farming Forestry , Construction and Engineering , Oil and Gas – from Midstream and Downstream , Energy Production and Utilities, Water and Waste Services, Food and Beverages, Paper and Wood Products, Building materials, Chemical products, Coal Mining , Mining , Oil and Gas – Upstream and Services, Pharma and biotechnology, Textiles, Accessories, Footwear and Jewelleries, Tobacco, and Transportation
55. When disclosing its transition plan, the undertaking shall:
- (a) provide a high-level explanation on how it will adjust its strategy and business model to ensure that they are compatible with:
 - i. respecting planetary boundaries on the biosphere integrity and land-system change²²;
 - ii. [the targets outlined in the Post-2020 Global Biodiversity Framework of no net loss by 2030, net gain from 2030 and fully recovery by 2050;] and
 - iii. The relevant targets as part of the EU Biodiversity Strategy for 2030 concerning the EU Nature Restoration Plan and Enabling Transformative Change.
 - (b) highlight its contribution to impact drivers and its possible mitigation actions following the mitigation hierarchy and the main path-dependencies and locked-in assets and resources (e.g., plants, raw materials) that are associated with biodiversity and ecosystems change;
56. Where applicable, this disclosure shall refer to and contextualise information presented under other Disclosure Requirements of this [draft] Standard.
57. In case the undertaking does not have a transition plan in place, it shall provide an explanation of its biodiversity and ecosystems-related ambition and whether and when it will adopt a transition plan.

Disclosure Requirement E4-2 – Impact metrics related to biodiversity and ecosystems change

58. **The undertaking shall report metrics related to its material impacts resulting in biodiversity and ecosystem change.**

²¹ The TNFD Nature-Related Risk and Opportunity Management and Disclosure Framework Beta v0.2 June 2022 p.

²² A description of the nine planetary boundaries can be found here: <https://www.stockholmresilience.org/research/planetary-boundaries/the-nine-planetary-boundaries.html>.

59. 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.
60. If the undertaking identified sites located in or near biodiversity-sensitive areas that it is negatively affecting²³ (see paragraph xx) the undertaking shall disclose the number and area (in hectares) of sites owned, leased or managed in or near these protected areas or key biodiversity areas.
 61. If the undertaking operates in one of the sectors for which Disclosure Requirement E4-1 is applicable and has identified material impacts with regards to land-use change, or impacts on the extent and condition of ecosystems, the undertaking shall also disclose their land-use based on a Life Cycle Assessment. above
 62. Wherever possible, the application requirements refer to examples of commonly used metrics and tools in the public domain to allow application of the different categories of measures required under this Disclosure Requirement. The undertaking may refer specifically to the recommendations provided by Aligning Accounting Approaches for Nature (Align)²⁴.
 63. For datapoints specified in paragraphs 59 to 61, the undertaking shall consider its own operations.
 64. If the undertaking has concluded that it directly contributes to the impact drivers of land-use change, freshwater-use change and / or sea-use change, the undertaking shall report relevant metrics considering:
 - (a) the conversion over time (e.g., one or five years) of land cover (e.g., deforestation or mining);
 - (b) changes over time (e.g., one or five years) in the management of the ecosystem (e.g., through the intensification of agricultural management, or the application of better management practices or forestry harvesting);
 - (c) changes in the spatial configuration of the landscape (e.g., fragmentation of habitats, changes in ecosystem connectivity);
 - (d) changes in ecosystem structural connectivity (e.g., habitat permeability based on physical features and arrangements of habitat patches); and
 - (e) the functional connectivity (e.g., how well genes, gametes, propagules or individuals move through land, freshwater and seascape).
 65. If the undertaking identified material impacts related to the state of species, the undertaking shall report metrics it considers relevant and:
 - (a) consider population size, range within specific ecosystems as well as extinction risk²⁵. ;
 - (b) include one or more indicators when disclosing information on species at global extinction risk²⁶ such as:
 - i. the threat status of species and how activities/pressures may affect the threat status; or
 - ii. change in the relevant habitat for a threatened species as a proxy for the undertakings impact on the local population's extinction risk.

²⁴ UNEP-WCMC, Capitals Coalition, Arcadis and ICF (2022) Recommendations for a standard on biodiversity measurement and valuation, Consultation Draft. Aligning Accounting Approaches for Nature (Align).

²⁵ As defined in the EU Birds and Habitats Directive 2013-2018 Reporting Guidelines.

²⁶ As indicated in The IUCN Red List of Threatened Species. Source: <https://www.iucnredlist.org/en>.

ESRS E5 Resource use and Circular economy

Disclosure Requirements- Resource use and Circular Economy (E5)

Disclosure Requirement E5-1 – Resource inflows

66. The undertaking shall disclose information on its material resource inflows.
67. The objective of this Disclosure Requirement is to enable an understanding of the resource use in the course of the undertaking's own operations and value chain.
68. The disclosure required by paragraph 6566 shall include a description of its material inflows: products (including packaging) and materials, and property, plant and equipment used in the undertaking's own operations and along the value chain.
69. For undertakings for which inflows are material and those active in one of "key products value chain", as defined in the EU Circular Economy action plan²⁷, the undertaking shall include, in tonnes or kilo, at the reporting period:
 - (a) the overall total weight of products and materials used during the reporting period;
 - (b) the weight in both absolute value and percentage of renewable input materials from regenerative sources used to manufacture the undertaking's products and services (including packaging); and
 - (c) the weight in both absolute value and percentage, of reused or recycled products and materials (non-virgin) used to manufacture the undertaking's products and services (including packaging).
70. The undertaking shall provide information on the methodologies used to calculate the data. It shall specify whether the data is sourced from direct measurement or estimations, and disclose the key assumptions used.

Disclosure Requirement E5-2 – Resource outflows

71. The undertaking shall disclose information on its material resource outflows, including waste.
72. The objective of this Disclosure Requirements is to provide an understanding of:
 - (a) how the undertaking contributes to circular economy by i) designing products and materials in line with circular principles and ii) the extent to which products, materials and waste processing are recirculated in practice after first use; and
 - (b) the undertaking's waste management strategy and the extent to which the undertaking knows how its waste is managed in its own activities.

Products and materials

73. The undertaking shall provide a description of the key products and materials that come out of the undertaking's production process and that are designed along circular principles, including durability, reusability, repairability, disassembly, remanufacturing, refurbishment, recycling or other optimisation of the use of the resource.
74. The undertaking for which outflows are material and those active in one of "key products value chain" as defined in the EU Circular Economy action plan²⁸, shall provide information at the reporting period on:

²⁷ [A new Circular Economy Action Plan \(europa.eu\)](https://europa.eu)

²⁸ [EU's Circular Economy Action Plan \(CEAP\)](https://europa.eu)

(a) the total weight (tonnes) and percentage of materials that come out of the undertaking's products and services production process (including packaging) that have been designed along circular principles:

- i. durability;
- ii. reusability;
- iii. repairability;
- iv. disassembly;
- v. remanufacturing or refurbishment;
- vi. recycling;
- vii. recirculation by the biological cycle;
- viii. other potential optimisation of product and material use; and

(b) the weight and percentage of products and materials that come out of the undertaking including packaging that, even if they do not meet the requirement required by paragraph 72(a), are designed to enhance/enable circular economy for customers further down the value chain.

75. The undertaking shall disclose information on its waste.

Waste

76. The undertaking shall disclose the following information on its total amount (by weight and on a wet basis) of waste produced on its own operations at the reporting period,

- (a) the total amount of waste generated;
- (b) the total amount and percentage of non-recycled waste²⁹.

77. The undertaking shall also disclose the total amount of hazardous waste and radioactive waste generated by the undertaking, where radioactive waste is defined in Article 3(7) of Council Directive 2011/70/Euratom³⁰. for each type of hazardous, the amount (by weight) directed to disposal by waste treatment type and the total amount summing all three types. The waste treatment types to be disclosed are:

- (a) incineration;
- (b) landfilling; and
- (c) other disposal operations

78. The undertaking shall provide contextual information on the methodologies used to calculate the data and in particular the criteria and assumptions used to determine and classify products designed along circular principles.

Centralised Disclosure Requirement E2-E5

Appendix A: Defined terms

This appendix is an integral part of the [draft] ESRS E1 and has the same authority as the other parts of the [draft] Standard.

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 (respectively "Non-recycled waste ratio").

³⁰ 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 #9 in Table 1 of Annex 1 of the related Delegated Regulation with regard to disclosure rules on sustainable investments (respectively "Hazardous waste and radioactive waste ratio").

Air pollutants	Direct emissions of sulphur dioxides (SO ₂), nitrogen oxides (NO _x), non-methane volatile organic compounds (NMVOC), and fine particulate matter (PM _{2,5}) as defined in Article 3, points (5) to (8), of Directive (EU) 2016/2284 of the European Parliament and of the Council (15), ammonia (NH ₃) as referred to in that Directive and heavy metals (HM) as referred to in Annex I to that Directive.
Article	An object which during production is given a special shape, surface or design which determines its function to a greater degree than its chemical composition. (REACH Regulation Article 3 (3))
Best Available Techniques (BAT)	<p>According to Article 3 point 10 of Directive 2010/75/EU “Best Available Techniques (BAT)” means the most effective and advanced stage in the development of activities and their methods of operation which indicates the practical suitability of particular techniques for providing the basis for emission limit values and other permit conditions designed to prevent and, where that is not practicable, to reduce emissions and the impact on the environment as a whole:</p> <ul style="list-style-type: none"> i. “techniques” includes both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned; ii. “available techniques” means those developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the costs and advantages, whether or not the techniques are used or produced inside the Member State in question, as long as they are reasonably accessible to the operator; and iii. “best” means most effective in achieving a high general level of protection of the environment as a whole.
BAT Conclusions	A document containing the parts of a BAT reference document laying down the conclusions on best available techniques, their description, information to assess their applicability, the emission levels associated with the best available techniques, associated monitoring, associated consumption levels and, where appropriate, relevant site remediation measures. ³¹
BAT-AEL	“Best Available Technique-Associated Emission Level” means the range of emission levels obtained under normal operating conditions using a best available technique or a combination of best available techniques, as described in BAT conclusions, expressed as an average over a given period of time, under specified reference conditions., i.e., the emission level that is associated with a BAT.
BAT-AEPL	Best Available Technique-Associated Environmental Performance Level. For each individual BAT, a BAT-AEPL can be indicated. A BAT-AEPL is an environmental performance levels associated with the “best available techniques”. It means the range of emission levels obtained under normal operating conditions using a best available technique or a combination of best available techniques, as described in BAT conclusions, expressed as an average over a given period of time, under specified reference conditions. ³²

³¹ Source: Industrial Emissions Directive (IED), Article 3

³² Source: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32012D0119&from=EN>

BREF or EU Best available techniques reference documents	A document, drawn up for defined activities and describing, in particular, applied techniques, present emissions and consumption levels, techniques considered for determining the best available techniques as well as BAT conclusions and any emerging techniques. ³³
Carbon credit	A carbon credit is a convertible and transferable instrument representing GHG emissions that have been reduced, avoided or removed through projects that are verified according to recognised quality standards. Carbon credits can be issued from projects within (sometimes referred to as insets) or outside the undertaking's value chain (sometimes referred to as offsets).
Carbon dioxide (CO₂) equivalent (eq)	The amount of carbon dioxide (CO₂) emission that would cause the same integrated radiative forcing or temperature change, over a given time horizon, as an emitted amount of a greenhouse gas (GHG) or a mixture of GHGs. CO₂eq is the universal unit of measurement to indicate the global warming potential (GWP) of each greenhouse gas, expressed in terms of the GWP of one unit of carbon dioxide. It is used to evaluate releasing (or avoiding releasing) different greenhouse gases on a common basis.
Climate change adaptation	Climate change adaptation means the process of adjustment to actual and expected climate change and its impacts. (Based on the Regulation (EU) 2020/852)
Climate change mitigation	Climate change mitigation means the process of reducing GHG emissions and holding the increase in the global average temperature to well below 2 °C and pursuing efforts to limit it to 1,5 °C above pre-industrial levels, as laid down in the Paris Agreement. (Based on the Regulation (EU) 2020/852)
Climate-related opportunity	Climate-related opportunities refer to the potential positive effects related to climate change on the undertaking. Efforts to mitigate and adapt to climate change can produce opportunities for undertakings, such as through resource efficiency and cost savings, the adoption and utilisation of low-emissions energy sources, the development of new products and services, and building resilience along the supply chain. Climate-related opportunities will vary depending on the region, market, and industry where the undertaking operates.
Climate-related physical risk (Physical risk from climate change)	Climate-related physical risks are risks that arise from the physical effects of climate change. They typically include acute physical risks, which arise from particular hazards, especially weather-related events such as storms, floods, fires or heatwaves, and chronic physical risks, which arise from longer-term changes in the climate, such as temperature changes, rising sea levels, reduced water availability, biodiversity loss and changes in land and soil productivity.
Climate resilience	The capacity of an entity to adjust to uncertainty related to climate change. This involves the capacity to manage climate-related risks and benefits from climate-related opportunities, including the ability to respond and adapt to transition risks and physical risks.
Climate-related transition risk	Climate-related transition risks are risks that arise from the transition to a low-carbon and climate-resilient economy. They typically include policy risks, legal risks, technology risks, market risks and reputational risks and can arise from related transition events.

³³ Source: Industrial Emissions Directive (IED), Article 3

Decarbonisation levers	Aggregated types of mitigation actions such as energy efficiency, electrification, fuel switching, use of renewable energy, products change, and supply-chain decarbonisation that fit with undertakings' specific actions.
Direct GHG emissions (Scope 1)	GHG emissions from sources owned or controlled by the undertaking.
Emission reduction	<p>Emissions reduction: decrease in Scope 1, 2, 3 or total GHG emissions at the end of the reporting period, relative to baseline emissions;</p> <p>Emission reductions may result from, among others, energy efficiency, electrification, suppliers' decarbonisation, electricity mix decarbonisation, sustainable products development or changes in reporting boundaries or activities (e.g., outsourcing, reduced capacities.), provided they are achieved within the undertaking's own operation and value chain; removals and avoided emissions are not counted as emission reductions.</p>
GHG removal and storage	<p>(Anthropogenic) Removals refer to the withdrawal of GHGs from the atmosphere as a result of deliberate human activities. These include enhancing biological sinks of CO₂ and using chemical engineering to achieve long-term removal and storage. Carbon capture and storage (CCS) from industrial and energy-related sources, which alone does not remove CO₂ in the atmosphere, can reduce atmospheric CO₂ if it is combined with bioenergy production (BECCS).</p> <p>Removals can be subject to reversals, which are any movement of stored GHG out of the intended storage that re-enters the surface and atmosphere. For example, if a forest that was grown to remove a specific amount of CO₂ is subject to a wildfire, the emissions captured in the trees are reversed.</p>
Global warming potential (GWP)	Global warming potential (GWP) is a factor describing the radiative forcing impact (degree of harm to the atmosphere) of one unit of a given GHG relative to one unit of CO ₂ .
Greenhouse Gases (GHG)	Greenhouse Gases (GHG) are those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and emit radiation at specific wavelengths within the spectrum of terrestrial radiation emitted by the Earth's surface, the atmosphere itself and by clouds. This property causes the greenhouse effect. Water vapour (H ₂ O), carbon dioxide (CO ₂), nitrous oxide (N ₂ O), methane (CH ₄) and ozone (O ₃) are the primary GHGs in the Earth's atmosphere. Moreover, there are a number of entirely human-made GHGs in the atmosphere, such as the halocarbons and other chlorine- and bromine-containing substances, dealt with under the Montreal Protocol. Besides CO ₂ , N ₂ O and CH ₄ , the Kyoto Protocol deals with the GHGs sulphur hexafluoride (SF ₆), hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs).
High climate impact sectors	High climate impact sectors are those listed in NACE Sections A to H and Section L. (as defined in the Regulation (EU) 2019/2088 and Annex 1 of the related Delegated Regulation with regard to disclosure rules on sustainable investments)

Indirect GHG emissions (Scope 2)	<p>Indirect GHG emissions are a consequence of the operations of the undertaking but occur at sources owned or controlled by another company. Scope 2 GHG emissions are indirect emissions from the generation of purchased or acquired electricity, steam, heat, or cooling consumed by the undertaking.</p>
Indirect GHG emissions (Scope 3)	<p>Indirect GHG emissions are a consequence of the operations of the undertaking but occur at sources owned or controlled by another company. Scope 3 GHG emissions are all indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions. Scope 3 GHG emissions are considered as estimated emissions in comparison with Scope 1 and 2 as their calculation is based on a combination of methods and primary and secondary data ranging from precise figures (supplier-specific or sites-specific methods) to extrapolated figures (average-data or spend-based methods).</p>
Internal carbon price	<p>Internal carbon price is a price used by entities to assess the financial implications of changes to investment, production, and consumption patterns, as well as potential technological progress and future emissions abatement costs.</p>
Internal carbon pricing scheme	<p>An organisational arrangement that allows the undertaking to apply carbon prices in strategic and operational decision making. There are two types of internal carbon prices commonly used by undertakings. The first type is a shadow price, which is a theoretical cost or notional amount that the undertaking does not charge but that can be used in assessing the economic implications or trade-offs for such things as risk impacts, new investments, net present value of projects, and the cost-benefit of various initiatives. The second type is an internal tax or fee, which is a carbon price charged to a business activity, product line, or other business unit based on its GHG emissions (these internal taxes or fees are similar to intracompany transfer pricing).</p>
Land use change uptakes and emissions	<p>Carbon uptakes and emissions (CO₂, CO and CH₄) originate from carbon stock changes caused by land use change and land use. This sub-category includes biogenic carbon exchanges from deforestation, road construction or other soil activities (including soil carbon emissions). For native forests, all related CO₂ emissions are included and modelled under this sub-category (including connected soil emissions, and products derived from native forests and residues), while their CO₂ uptake is excluded. (Adapted from Recommendation (EU) 2021/2079 Publications Office (europa.eu) pages 66, 173, 263 et 368)</p>
Locked-in GHG emissions	<p>Locked-in emissions are estimates of future GHG emissions that are likely to be caused by the undertaking's key assets or products sold within their operating lifetime.</p>
Nature-based solutions	<p>Nature-based solutions are understood as actions to protect, conserve, restore, sustainably use and manage natural or modified terrestrial, freshwater, coastal and marine ecosystems which address social, economic and environmental challenges effectively and adaptively, while simultaneously providing human well-being, ecosystem services, resilience and biodiversity benefits.</p>
Net-zero target	<p>Setting a net-zero target at the level of the undertaking aligned with meeting societal climate goals means (1) achieving a scale of value chain emissions reductions consistent with the depth of abatement at the point of reaching global net-zero in 1.5°C pathways, and (2) neutralizing the impact of any residual emissions (after approximately</p>

	90-95% of GHG emission reduction) by permanently removing an equivalent volume of CO ₂ .
Non-renewable energy	Non-renewable energy is energy which cannot be identified as being derived from renewable sources. (Adapted from Annex 1 of the Delegated Regulation with regard to disclosure rules on sustainable investments pursuant to Art. 8(4), 9(6) and 11(5) of Regulation (EU) 2019/2088) Fossil fuels such as oil, natural gas, and coal are examples of non-renewable resources.
Potential financial effects	Potential financial effects are the effects on the undertaking's future position, performance and cash flow arising from material sustainability matters whereby the reporting of such effects falls outside the scope of existing accounting requirements.
Purchased or acquired energy	When the undertaking has received its energy from a third party. The term "acquired" reflects circumstances where a company may not directly purchase electricity (e.g., a tenant in a building), but where the energy is brought into the undertaking's facility for use.
Recognised quality standards for carbon credits	Recognised quality standards for carbon credits are those that are verifiable by independent third parties, make requirements and project reports publicly available and at a minimum ensure additionality, permanence, avoidance of double counting and provide rules for calculation, monitoring, and verification of the project's GHG emissions.
Renewable energy	Renewable energy is energy taken from sources that are inexhaustible. As such, renewable energy covers wind, solar (solar thermal and solar photovoltaic) and geothermal energy, ambient energy, tide, wave and other ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas, and biogas. (Art. 2 (1) Directive (EU) 2018/2001)
Scenario	A plausible description of how the future may develop based on a coherent and internally consistent set of assumptions about key driving forces (e.g., rate of technological change, prices) and relationships. Note that scenarios are neither predictions nor forecasts but are used to provide a view of the implications of developments and actions.
Scenario analysis	Scenario analysis is a process for identifying and assessing a potential range of outcomes of future events under conditions of uncertainty.
Scope 3 category	Scope 3 category is one of the 15 types of Scope 3 emissions identified by the GHG Protocol Corporate Standard and detailed by the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard. (adapted from GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard, Glossary (Version 2011)) Undertakings that choose to account for their Scope 3 emissions based on the indirect GHG emissions categories of ISO 14064-1:2018 may also refer to the category defined in clause 5.2.4 (excluding indirect GHG emissions from imported energy) of ISO 14064-1:2018.
Transition plan for climate change mitigation	An aspect of the undertaking's overall strategy that lays out the entity's targets and actions for its transition towards a lower-carbon economy,

	including actions such as reducing its GHG emissions and with the objective of limiting climate change to 1.5°C and climate neutrality.
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Appendix B: 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 74 and has the same authority as the other parts of this [draft] Standard.

Application Requirements-Climate Change

Disclosure Requirement E1-1 – Transition plan for climate change mitigation

- AR 1. A transition plan relates to the undertaking’s efforts in climate change mitigation. When disclosing its transition plan, the undertaking is expected to provide a high-level explanation of how it will adjust its strategy and business model to ensure compatibility with the transition to a sustainable economy and with the limiting of global warming to 1.5°C in line with the Paris Agreement (or an updated international agreement on climate change) and the objective of achieving climate neutrality by 2050 with no or limited overshoot as established in Regulation (EU) 2021/1119 (European Climate Law), and where applicable, its exposure to coal, and oil and gas-related activities.
- AR 2. Sectoral pathways have not yet been defined by the public policies for all sectors. Hence, the disclosure under paragraph 6(a) on the compatibility of the transition plan with the objective of limiting global warming to 1.5°C should be understood as the disclosure of the undertaking’s GHG emissions reduction target. The disclosure under paragraph 6(a) shall be benchmarked in relation to a pathway to 1.5°C. This benchmark should be based on either the sectoral decarbonisation methodology if available for the undertaking’s sector or the absolute contraction methodology bearing in mind its limitations (i.e., it is a simple translation of emission reduction objectives from the State to Corporate level).
- AR 3. When disclosing the information required under paragraph 6(d), the undertaking may consider:
- (a) the cumulative locked-in GHG emissions associated with key assets from the reporting year until 2030 and 2050 in tCO₂eq. This will be assessed as the sum of the estimated Scopes 1 and 2 GHG emissions over the operating lifetime of the active and firmly planned key assets. Key assets are those owned or controlled by the undertaking, and they consist of existing or planned assets (such as stationary or mobile installations, facilities, and equipment) that are sources of either significant direct or energy-indirect GHG emissions. Firmly planned key assets are those that the undertaking will most likely deploy within the next five years.
 - (b) the cumulative locked-in GHG emissions associated with the direct use-phase GHG emissions of sold products in tCO₂eq, assessed as the sales volume of products in the reporting year multiplied by the sum of estimated direct use-phase GHG emissions over their expected lifetime. This requirement only applies if the undertaking has identified the Scope 3 category “use of sold products” as significant under Disclosure Requirement E1-6 paragraphs 24 and AR 44.
 - (c) an explanation of the plans to manage, i.e., to transform, decommission or phase out its GHG-intensive and energy-intensive assets and products.
- AR 4. When disclosing the information required under paragraph xx), the undertaking shall explain how the alignment of its economic activities with the provisions of the Delegated Act (EU) 2021/2139 (evolution of green revenue) supports its transition to a sustainable economy. In doing so, the undertaking shall take account of the information required to be disclosed under Article. 8 of the Taxonomy Regulation (in particular, the green revenue, and CapEx and, if applicable, CapEx plans).

AR 5. If applicable, the explanation referred to in paragraphs xx and AR 4 shall take into consideration the amount³⁴ of CapEx in the current reporting year that is related to coal, oil and gas-related economic activities. The undertaking shall also disclose significant CapEx amounts invested during the reporting year related to coal, oil and gas-related economic activities.

AR 6. When disclosing the information required under paragraph 15 (f), the undertaking shall state whether or not it is excluded from the EU Paris-aligned Benchmarks in accordance with the exclusion criteria stated in Articles 12.1 (d) to (g)³⁵ and 12.2 of the Climate Benchmark Standards Regulation³⁶.

Disclosure Requirement E1-2 – Energy consumption and mix

Calculation guidance

AR 7. When preparing the information on energy consumption required under paragraph 33, 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:
- (d) energy units other than MWh, such as Giga-Joules (GJ) or British Thermal Units (Btu);
- (e) volume units, such as cubic feet or gallons; or
- (f) mass units, such as kilograms (kg) or pounds (lb),

³⁴ The CapEx amounts considered are related to the following NACE codes:

- (a) B.05 Mining of coal and lignite, B.06 Extraction of crude petroleum and natural gas (limited to crude petroleum),
- (b) B.09.1 Support activities for petroleum and natural gas extraction (limited to crude petroleum),
- (c) C.19 Manufacture of coke and refined petroleum products,
- (d) D.35.1 - Electric power generation, transmission and distribution and
- (e) D.35.3 - Steam and air conditioning supply (limited to coal-fired and oil-fired power and/or heat generation),
- (f) G.46.71 - Wholesale of solid, liquid and gaseous fuels and related products (limited to solid and liquid fuels).

1. For gas-related activities, the NACE code definition addresses activities with direct GHG emissions that are higher than 270 gCO₂/KWh.

³⁵ Article 12.1 of the Climate Benchmark Standards Regulation states “that Administrators of EU Paris-aligned Benchmarks shall exclude the following companies:

- d) companies that derive 1% or more of their revenues from exploration, mining, extraction, distribution or refining of hard coal and lignite; or
- e) companies that derive 10% or more of their revenues from exploration, extraction, distribution or refining of oil fuels; or
- f) companies that derive 50% or more of their revenues from exploration, extraction, manufacturing or distribution of gaseous fuels; or
- g) companies that derive 50% or more of their revenues from electricity generation with a GHG intensity of more than 100 g CO₂ e/KWh.”

Article 12.2 states that “Administrators of EU Paris-aligned Benchmarks shall exclude from those benchmarks any companies that are found or estimated by them or by external data providers to significantly harm one or more of the environmental objectives referred to in Article 9 of Regulation (EU) 2020/852 of the European Parliament and of the Council, in accordance with the rules on estimations laid down in Article 13(2) of this Regulation.”

³⁶ This disclosure requirement is consistent with the requirements in EBA Pillar 3 ITS- [template 1 climate change transition risk](#)

- (g) it shall be converted to MWh using suitable conversion factors (see for example the Annex II of the Fifth Assessment IPCC report). Conversion factors for fuels shall be made transparent and applied in a consistent manner;
- (h) 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 the EU Directive 2012/27 on energy efficiency;
- (i) avoid double counting fuel consumption when disclosing self-generated energy consumption. If the undertaking generates electricity from either a non-renewable or renewable fuel source and then consumes the generated electricity, the energy consumption shall be counted only once under fuel consumption;
- (j) not offset energy consumption even if onsite generated energy is sold to and used by a third party;
- (k) not count energy that is sourced from within the organisational boundary under “purchased or acquired” energy;
- (l) account for steam, heat or cooling received as “waste energy” from a third party’s industrial processes under “purchased or acquired” energy;
- (m) account for renewable hydrogen 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
- (n) 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 Europe or similar instruments like Renewable Energy Certificates in the US and Canada, etc.).

AR 8. The information required under paragraph 35(a) shall be disaggregated by type of non-renewable source and this shall be done only for high climate impact sectors.

AR 9.

Energy consumption and mix	Comparative	Year N
(1) Fuel consumption from coal and coal products (MWh)		
(2) Fuel consumption from crude oil and petroleum products (MWh)		
(3) Fuel consumption from natural gas (MWh)		
(4) Fuel consumption from other non-renewable sources (MWh)		
(5) Consumption from nuclear products (MWh)		
(6) Consumption of purchased or acquired electricity, heat, steam, and cooling from non-renewable sources (MWh)		
(7) Total non-renewable energy consumption (MWh) (calculated as the sum of lines 1 to 6)		
Share of non-renewable sources in total energy consumption (%)		
(8) Fuel consumption for renewable sources (including biomass, biogas, non-fossil fuel waste, renewable hydrogen, etc.) (MWh)		

(9) Consumption of purchased or acquired electricity, heat, steam, and cooling from renewable sources (MWh)		
(10) The consumption of self-generated non-fuel renewable energy (MWh)		
(11) Total renewable energy consumption (MWh) (calculated as the sum of lines 8 to 10)		
Share of renewable sources in total energy consumption (%)		
Total energy consumption (MWh) (calculated as the sum of lines 7 and 11)		

AR 10. The total energy consumption with a distinction between renewable and non-renewable energy consumption may be graphically presented in the sustainability statement showing developments over time (e.g., through a pie or bar chart).

Energy intensity based on net revenue

Calculation guidance

AR 11. When preparing the information on energy intensity required under paragraph 37, 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 35;
- (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.

AR 12. 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 13. 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 40) 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 E1-3 – Gross Scopes 1, 2, 3 and Total GHG emissions

Calculation guidance

AR 14. When preparing the information for reporting GHG emissions as required by paragraph 41, the undertaking shall:

- (a) consider the principles, requirements and guidance provided by the GHG Protocol Corporate Standard (version 2004 or the latest one) and GRI 305 (version 2016 which is directly based on the requirements of the GHG Protocol). The undertaking may consider the requirements stipulated by ISO 14064-1:2018. If the undertaking already applies the GHG accounting methodology of ISO 14064-1: 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);
- (b) disclose the methodologies and emissions factors used to calculate or measure GHG emissions, and provide a reference or link to any calculation tools used;
- (c) include emissions of CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, and NF₃. Additional GHG may be considered when significant;
- (d) 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; and
- (e) disclose the methodologies and emissions factors used to calculate or measure GHG emissions, and provide a reference or link to any calculation tools used.

AR 15. The undertaking may disaggregate its Scope 1, 2 and 3 GHG emissions by country, operating segments, economic activity, 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) as appropriate.

AR 16. When disclosing the information on GHG emissions required under paragraph 11 taking into account the value chain, the following requirements shall apply:

AR 17. If the undertaking has operational control of associates, joint ventures (accounted for under either the equity method or proportionally consolidated in the undertaking's group financial statements), and unconsolidated subsidiaries (investment entities) (i.e., if it has the ability to control the operational activities and relationships of these entities);

AR 18. it shall include their full (Scope 1 and 2) GHG emissions in its reported GHG emissions (primarily as Scope 1 and 2 GHG emissions if the undertaking is a non-financial corporation, and as Scope 3 GHG emissions under the financial investments category particularly if it is a financial institution).

AR 19. the undertaking shall not apply the share of equity held in these entities to limit the proportion of their GHG emissions that it includes in its reported GHG emissions.

AR 20. If the undertaking has operational control of contractual arrangements in joint arrangements that are not structured through an entity (i.e., jointly controlled operations and assets) (for instance, through its holding of an environmental license or permit from the local authorities), it shall include their full (Scope 1 and 2) GHG emissions in its reported GHG emissions.

AR 21. Conversely, in its reported Scope 1 and 2 GHG emissions, the undertaking shall not include any (Scope 1 and 2) GHG emissions from the entities (i.e., associates, joint ventures and, unconsolidated subsidiaries) and contractual arrangements in jointly controlled operations where it does not have operational control. However, when these entities and contractual arrangements are part of the undertaking's value chain, their Scope 1, 2 and 3 GHG emissions shall be accounted for as part of the undertaking's Scope 3 GHG emissions.

AR 22. When preparing the information on gross Scope 1 GHG emissions required under paragraph 16(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 carbon from the combustion or biodegradation of biomass separately from the Scope 1 GHG emissions, but include emissions of other types of GHG (in particular N₂O); and
- (d) exclude any purchased, sold or transferred carbon credits or GHG allowances;
- (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;
- (f) disclose carbon uptakes and emissions (CO₂, CO, CH₄) from direct land use and land use change separately from the Scope 1 GHG emissions, but include emissions of other types of GHG when applicable.

AR 23. When preparing the information on the percentage of Scope 1 GHG emissions from regulated emission trading schemes required under paragraph 16(b), the undertaking shall:

- (a) consider GHG emissions from the installations it operates that are subject to regulated Emission Trading Schemes (ETS), including the EU-ETS, national ETS and non-EU ETS, if applicable;
- (b) only include emissions of CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, and NF₃;
- (c) ensure the same accounting period for gross Scope 1 GHG emissions and GHG emissions regulated under the ETS; and
- (d) calculate the share by using the following formula:

$$\frac{\text{GHG emissions in (t CO}_2\text{eq) from EU ETS installations} + \text{national ETS installations} + \text{nonEU ETS installations}}{\text{Scope 1 GHG emissions (t CO}_2\text{eq)}}$$

AR 24. When preparing the information on gross Scope 2 GHG emissions required under paragraph 17, the undertaking shall:

- (a) consider the principles and requirements of the GHG Protocol Scope 2 Guidance (version 2015 or the latest one); it may also consider corresponding requirements for the quantification of indirect GHG emissions from imported energy in 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 market-based methods to calculate Scope 2 GHG emissions;

Note: 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);

Note: 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.

- (e) disclose biogenic emissions of carbon from the combustion or biodegradation of biomass separately from the Scope 2 GHG emissions but include emissions of other types of GHG (in particular 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 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;
- (f) exclude any purchased, sold or transferred carbon credits or GHG allowances from the calculation of Scope 2 GHG emissions;
- (g) adhere to the rules as set out in chapter 7.1 of the GHG Protocol Scope 2 Guidance (version 2015 or the latest one) and disclose the required information accordingly;
- (h) disclose carbon uptakes and emissions (CO₂, CO, CH₄) from indirect land use and land use change separately from the Scope 2 GHG emissions, but include emissions of other types of GHG when applicable.

AR 25. When preparing the information on gross Scope 3 GHG emissions required under paragraph 48, the undertaking shall:

- (a) consider the principles and provisions of the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard (Version 2011 or latest one); and it may consider the corresponding requirements for the quantification of indirect GHG emissions from ISO 14068:2018;
- (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);
- (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 ISO 14064:2018 clause 5.2.4 (excluding indirect GHG emissions from imported energy);
- (d) identify 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. 63 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 emissions factors recommended by the GHG protocol such as IPCC, ASHRAE Standard 34 / World Resources Institute and The Climate Registry;
- (f) at least update the Scope 3 inventory every three years and in case of major changes (Explanatory note: Scope 3 GHG emissions need to be disclosed every year, but a full update of the underlying inventory is only expected every three years unless major changes occur);
- (g) disclose the percentage of emissions calculated using primary data obtained from suppliers or other value chain partners;
- (h) for each significant Scope 3 GHG emissions category, disclose the reporting boundaries considered, the calculation methods for estimating the GHG emissions as well as if and which calculation tools were applied. The Scope 3 categories should be consistent with the GHGP and include:
 - i. indirect Scope 3 GHG emissions from the consolidated accounting group (the parent and its subsidiaries),

- ii. indirect Scope 3 GHG emissions from associates, joint ventures, and unconsolidated subsidiaries for which the undertaking has the ability to control the operational activities and relationships (i.e., operational control),
 - iii. Scope 1, 2 and 3 GHG emissions from associates, joint ventures, unconsolidated subsidiaries (investment entities) and joint arrangements for which the undertaking does not have operational control and when these entities are part of the undertaking's value chain.
- (i) disclose a list of Scope 3 GHG emissions categories included in and excluded from the inventory with a justification for excluded Scope 3 categories;
- (j) disclose biogenic emissions of carbon from the combustion or biodegradation of biomass that occur in its value chain separately from the gross Scope 3 GHG emissions, and include emissions of other types of GHG (such as 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;
- (k) exclude any purchased, sold or transferred carbon credits or GHG allowances from the calculation of Scope 3 GHG emissions;
- (l) disclose carbon uptakes and emissions (CO₂, CO, CH₄) from land use and land use change in its value chain separately from the Scope 3 GHG emissions, but include emissions of other types of GHG when applicable.

AR 26. When preparing the information on the total GHG emissions required under paragraph 49, the undertaking shall:

- (a) apply the following formulas to calculate the total GHG emissions:

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

- (b) disclose total GHG emissions with a distinction between emissions derived from the location-based and market-based methods applied while measuring the underlying Scope 2 GHG emissions.

AR 27. The total GHG emissions disaggregated by Scopes 1 and 2 and significant Scope 3 shall be presented according to the table below.

AR 28.	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)								
Significant scope 3 GHG emissions*								
Total Gross indirect (Scope 3) GHG emissions (tCO ₂ eq)								
Purchased goods and services								
[Optional sub-category: Cloud computing and data centre services								
Capital goods]								
Fuel and energy-related activities								
Upstream leased assets								
Waste generated in operations								
Processing of sold products								
Use of sold products								
End-of-life treatment of sold products								
Downstream leased assets								
Franchises								
Upstream transportation and distribution								
Downstream transportation and distribution								
Business travels								
Employee commuting								
Financial investments								
Total GHG emissions								
Total GHG emissions (location-based) (tCO ₂ eq)								
Total GHG emissions (market-based) (tCO ₂ eq)								

*Undertakings that choose to account for their Scope 3 emissions based on the indirect GHG emissions categories of ISO 14064-1:2018 (excluding indirect GHG emissions from imported energy) can present the information accordingly.

AR 29. To highlight potential transition risks, the undertaking shall consider disclosing its total GHG emissions disaggregated by major countries and, if applicable, by operating segments (applying the same segments for the financial statements as required by the accounting standards, i.e., IFRS 8 Operating Segments or local GAAP). Scope 3 GHG emissions may be excluded from these breakdowns by country if the related data is not readily available.

AR 30. The Scope 3 GHG emissions may also be presented by overarching Scope 3 categories of the GHG Protocol to highlight the major sources of emissions in the value chain:

- (a) Upstream purchasing: “purchased goods and services”, “capital goods”, “fuel- and energy-related activities (not included in Scope 1 or Scope 2)”, “upstream leased assets” and “waste generated in operations”;
- (b) Downstream sold products: “processing of sold products”; “use of sold products”, “end-of-life treatment of sold products”, “Downstream leased assets”, “Franchises”;
- (c) Goods transportation: “upstream transportation and distribution” and “downstream transportation and distribution”;
- (d) Travels: “business travels” and “employee commuting”;
- (e) Financial investments.

AR 31. 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 32. The total GHG emissions disaggregated by Scope 1, 2 and 3 GHG emissions may be graphically presented in the sustainability statement (e.g., as a bar or pie chart) showing the split of GHG emissions across the value chain (Upstream, Own operations, Transport, Downstream).

GHG intensity based on net revenue

Calculation guidance

AR 33. When disclosing the information on GHG intensity based on net revenue required under paragraph 50, 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 41 (d) and 49; 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.

AR 34. The quantitative information may be presented in the following tabular format.

GHG intensity per net revenue	Comparative	N	% N / N-1
Total GHG emissions (location-based) per net revenue (tCO ₂ eq/Monetary unit)			
Total GHG emissions (market-based) per net revenue (tCO ₂ eq/Monetary unit)			

Connectivity of GHG intensity based on revenue with financial reporting information

AR 35. 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 52) may be done 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 statement, 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)	

Disclosure Requirement E1-4 – GHG removals and GHG mitigation projects financed through carbon credits

GHG removals and storage in own operations and the value chain

AR 36. 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 and value chain. 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 (paragraphs 53(a) and 55). 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 paragraphs 53(b) and 56.

AR 37. When disclosing the information on GHG removals and storage from the undertaking’s own operations and its value chain required under paragraphs 53(a) and 55, for each removal and storage activity, the undertaking shall describe:

- (a) the GHGs concerned;
- (b) whether removal and storage are biogenic or from land use change (e.g., afforestation, reforestation, forest restoration, urban tree planting, agroforestry, building soil carbon, etc.), technological (e.g., direct air capture), or hybrid (e.g., bioenergy with CO₂ capture and storage) and technological details;
- (c) if applicable, a brief explanation of whether the activity qualifies as a nature-based solution; and
- (d) how the risk of non-permanence is managed, including determining and monitoring leakage and reversal events, as appropriate.

Calculation guidance

AR 38. When preparing the information on GHG removals and storage from the undertaking’s own operations and its value chain required under paragraphs 53(a) and 55, the undertaking shall:

- (a) 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);
- (b) apply consensus methods on accounting for GHG removals as soon as they are available, notably the EU regulatory framework for the certification of CO₂ removals;
- (c) if applicable, explain the role of removals for its climate change mitigation policy;
- (d) include removals from operations that it owns or controls;
- (e) account for the GHG emissions associated with a removal activity under Disclosure Requirement E1-6 (Scopes 1, 2 or 3). To increase transparency on the efficiency of a removal activity, 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;

- (f) in case of a reversal, account for the respective GHG emissions as an offset for the removals in the reporting period;
- (g) 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; and
- (h) consider nature-based solutions.

AR 39. The undertaking shall disaggregate and separately disclose the GHG removals that occur in its own operations and those that occur in its value chain. GHG removal activities in the value chain shall include those that the undertaking is actively supporting, for example, through a cooperation project with a supplier. The undertaking is not expected to include any GHG removals that may occur in its value chain that it is not aware of.

AR 40. The quantitative information on GHG removals may be presented by using the following tabular format.

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

GHG mitigation projects financed through carbon credits

AR 41. Financing GHG emission reduction projects outside the undertaking’s value chain through purchasing carbon credits that fulfil high-quality standards can be a useful contribution towards mitigating climate change. This [draft] Standard requires the undertaking to disclose whether it uses carbon credits separately from the GHG emissions (paragraphs 53(b) and 56) and GHG emission reduction targets (Disclosure Requirement E1-4). It also requires the undertaking to show the extent of use and which quality criteria it uses for those carbon credits.

AR 42. When disclosing the information on carbon credits required under paragraphs 53(b) and 56, the undertaking shall consider disclosing the carbon credits with a breakdown of the following information, if applicable:

- (a) the share (percentage of volume) of reduction projects and removal projects;

- (b) the share (percentage of volume) for each recognised quality standard;
- (c) the share (percentage of volume) issued from projects in the EU; and
- (d) the share (percentage of volume) that qualifies as a corresponding adjustment under Article. 6 of the Paris Agreement.

Calculation guidance

AR 43. When preparing the information on carbon credits required under paragraphs 53(b) and 56, the undertaking shall:

- (a) Consider recognised quality standards as those that are managed by a recognised GHG programme, are verifiable by independent third parties, make requirements and project reports publicly available and at a minimum ensure additionality, permanence, avoidance of double counting and provide rules for calculation, monitoring, and verification of the project’s GHG emissions.
- (b) if applicable, explain the role of carbon credits in its climate change mitigation policy;
- (c) 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 E1-6 (Scope 2 or Scope 3) at the time they occur (i.e., double counting is avoided);
- (d) not include carbon credits from GHG removal projects within its value chain as the respective GHG removals may already be accounted for under Disclosure Requirement E1-7 at the time they occur (i.e., double counting is avoided);
- (e) not disclose carbon credits as an offset for its GHG emissions under Disclosure Requirement E1-6 on GHG emissions;
- (f) not disclose carbon credits as a means to reach the GHG emission reduction targets disclosed under Disclosure Requirement E1-4; and
- (g) 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 44. 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 (tCO ₂ eq)	

Disclosure Requirement E1-5 – Potential financial effects from material physical and transition risks and potential climate-related opportunities

Potential financial effects from material physical and transition risks

AR 45. Material climate-related physical and transition risks may affect the undertaking's financial position (e.g., owned assets, financially-controlled leased assets, and liabilities), performance (e.g., potential future increase/decrease in net revenue and costs due to business interruptions, increased supply prices resulting in potential margin erosions), and cash flows. The low probability, high severity and long-term time horizons of some climate-related physical risk exposures and the uncertainty arising from the transition to a sustainable economy mean that there will be associated material potential financial effects that are outside the scope of the requirements of existing accounting standards.

AR 46. Currently, there is no commonly accepted methodology to assess or measure how material physical and transition risks may affect the undertaking's future financial position and performance. Therefore, the disclosure of these effects (as required by paragraphs 45, 46 and 47) will depend on the undertaking's internal methodology and the exercise of significant judgement in determining the inputs, and assumptions needed to quantify their potential financial effects.

AR 47. The information required by this disclosure requirement on potential financial effects differs from and is in addition to the information on the current/past financial effects reflected in the financial statements required under [draft] Section 2 SBM-3.

Calculation guidance - Potential financial effects from material physical risks

AR 48. When disclosing the information required under paragraphs 45(a) and 47, the undertaking shall explain whether and how:

- (a) it assessed the potential financial effects for assets and business activities at material physical risk, including the scope of application, time horizons, calculation methodology, critical assumptions and parameters and limitations of the assessment; and
- (b) the assessment of assets and business activities considered to be at material physical risk relies on or is part of the process to determine material physical risk as required under paragraphs 18(b) and AR 12 and to determine climate scenarios as required under paragraphs 19 and AR 13 to AR 14. In particular, it shall explain how it has defined medium- and long-term time horizons and how these definitions are linked to the expected lifetime of the undertaking's assets, strategic planning horizons and capital allocation plans.

AR 49. When preparing the information on assets at material physical risk that is required to be disclosed under paragraph 45(a), the undertaking shall:

- (a) Calculate the assets at material physical risk in terms of monetary amount and as a proportion (percentage) of total assets as of the reporting date (i.e., the proportion is an estimate of the carrying value of assets at material physical risk divided by total carrying value as stated in the statement of financial position or balance sheet). The estimate of assets at material physical risk shall be derived starting from the assets recognised in the financial statements. The estimate of monetary amounts and proportion of assets at physical risk may be presented as either a single amount or range.
- (b) All types of assets including finance-lease / right-of-use assets shall be considered when determining the assets at material physical risk.
- (c) To contextualise this information, the undertaking shall:

- i. disclose the location of its significant assets at material physical risk. Significant assets located³⁷ in the EU territory shall be aggregated by NUTS codes 3 level digits. For significant assets located outside EU territory, the breakdown by NUTS code will only be provided where applicable.
- ii. disaggregate the monetary amounts of assets at risk by acute and chronic physical risk³⁸.
- (d) calculate the share of assets at material physical risk resulting from paragraph AR 42 (a) that is addressed by the climate change adaptation actions based on the information disclosed under Centralised Disclosure Requirement on Actions This aims at approximating net risks.

AR 50. When preparing the information required under paragraph 45(a), the undertaking may assess and disclose the share of net revenue from business activities at physical risk. This disclosure

- (a) shall be based on the net revenue in line with the requirements in accounting standards applied for financial statements, i.e., IFRS 15 or local GAAP.
- (b) may include a breakdown of the undertaking's business activities with the corresponding details of the associated percentage of total net revenue, the risk factors (hazards, exposure and sensitivity) and, if possible, the magnitude of the potential financial effects in terms of margin erosion over the short-, medium- and long-term time horizons. The nature of business activities may also be disaggregated by operating segments if the undertaking has disclosed the contribution of margins by operational segments in its segment reporting in the financial statements.

Calculation guidance - Potential financial effects from transition risk

AR 51. When disclosing the information required under paragraphs 33(b) and 36, the undertaking shall explain whether and how:

- (a) it has assessed the potential effects on future financial performance and position for assets and business activities at material transition risk, including the scope of application, calculation methodology, critical assumptions and parameters, and limitations of the assessment; and
- (b) the assessment of assets and business activities considered to be at material transition risk relies on or is part of the process to determine material transition risks as described under paragraphs 18(c) and AR 12 and to determine scenarios as required under paragraphs AR 13 to AR 14. In particular, it shall explain how it has defined medium- and long-term time horizons and how these definitions are linked to the expected lifetime of the undertaking's assets, strategic planning horizons and capital allocation plans.

AR 52. When disclosing the information on assets at material transition risk as required under paragraphs 36(a) and (b):

- (a) the undertaking shall at the very least include an estimate of the amount of potentially stranded assets (in monetary amounts and as a proportion/percentage) from the reporting year until 2030 and from 2030 to 2050. Stranded assets are understood as the active or firmly planned key assets of the undertaking with significant locked-in GHG emissions over their operating lifetime. Firmly planned key assets are those that the undertaking will most likely deploy within the next five years. The amount may be expressed as a range of asset values based on different climate and policy scenarios, including a scenario aligned with limiting climate change to 1.5°C.
- (b) the undertaking shall disclose a breakdown of the carrying value of its real estate assets by energy efficiency classes. The energy efficiency shall be represented in terms of either the ranges of energy consumption in kWh/m² or the EPC³⁹ (Energy

³⁷ This disclosure requirement is consistent with the requirements of EBA Pillar 3 ITS- [Template 5 exposures subjects to physical risk](#)

³⁸ Ibid

³⁹ Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings (OJ L 153, 18.6.2010, p. 13).

Performance Certificate)⁴⁰ label class. If the undertaking cannot obtain this information on a best-effort basis, it shall disclose the total carrying amount of the real estate assets for which the energy consumption is based on internal estimates.

- (c) the undertaking shall calculate the proportion (percentage) of total assets (including finance lease/right-of-use assets) at material transition risk addressed by the climate change mitigation actions based on the information disclosed under Disclosure Requirement E1-3. The total assets amount is the carrying amount on the balance sheet as of the reporting date.

AR 53. When disclosing the information on potential liabilities from material transition risks required under paragraph 64(d):

- (a) undertakings that operate installations regulated under an emission trading scheme may include a range of potential future liabilities originating from these schemes;
- (b) undertakings subject to the EU ETS, may disclose the potential future liabilities that relate to their allocation plans for the period before and until 2030. The potential liability may be estimated on the basis of:
 - i. the number of allowances held by the undertaking at the beginning of the reporting period;
 - ii. the number of allowances to be purchased in the market yearly, i.e., before and until 2030;
 - iii. the gap between estimated future emissions under various transition scenarios and free allocations of allowances that are known for the period until 2030, and
 - iv. the estimated yearly cost per tonne to be purchased;
- (c) In assessing its potential future liabilities, the undertaking may consider and disclose the number of Scope 1 GHG emission allowances within regulated emission trading schemes and the cumulative number of emission allowances stored (from previous allowances) at the beginning of the reporting period;
- (d) undertakings disclosing volumes of carbon credits planned to be cancelled in the near future (Disclosure Requirement E1-7) may disclose the potential future liabilities associated with those based on existing contractual agreements;
- (e) the undertaking may also include its monetised gross Scope 1, 2 and total GHG emissions (in monetary units) calculated as follows:
 - i. monetised Scope 1 and 2 GHG emissions in the reporting year by the following formula:

$$(c) \quad (\text{gross Scope 1 GHG emissions (t CO}_2\text{eq)} + \text{gross Scope 2 GHG emission (t CO}_2\text{eq)}) \times \text{GHG emission cost rate} \left(\frac{\text{€}}{\text{t CO}_2\text{eq}} \right)$$
 - ii. monetised total GHG emissions in the reporting year by the following formula:

$$(d) \quad \text{Total GHG emissions (t CO}_2\text{eq)} \times \text{GHG emission cost rate} \left(\frac{\text{€}}{\text{t CO}_2\text{eq}} \right)$$
 - iii. by use of a lower, middle and upper cost rate⁴¹ for GHG emissions (e.g., market carbon price and different estimates for the societal costs of carbon) and reasons for selecting them.

⁴⁰ This disclosure requirement is consistent with the requirements of EBA Pillar 3 ITS- Template 2 immovable property, energy efficiency of the collateral

⁴¹ The cost rate is the factor used to convert non-monetary impacts like tonnes, hectares, m³ etc. into monetary units. Cost rates should be based on monetary valuation studies, need to be science-based and the methods used to obtain them transparent. Guidance on these methods can be obtained, e.g., from the EU-LIFE project, TRANSPARENT (see recital (38) of the draft CSRD).

AR 54. Other approaches and methodologies may be applied to assess how transition risks may affect the future financial position of the undertaking. In any case, the disclosure of financial effects shall include a description of the methodologies and definitions used by the undertaking.

AR 55. When preparing the information required under paragraph 63(d), the undertaking may assess and disclose the share of net revenue from business activities at transition risks. This disclosure:

- (a) shall be based on the net revenue in line with the requirements in accounting standards applied for financial statements, i.e., IFRS 15 or local GAAP.
- (b) may include a breakdown of the undertaking’s business activities with the corresponding details of the associated percentage of current net revenue, risk factors (events and exposure), and when possible, the potential financial effects related to margin erosion over the short-, medium- and long-term time horizons. The nature of business activities may also be disaggregated by operating segments if the undertaking has disclosed the contribution of margins by operational segments in its segment reporting in the financial statements.

Connectivity with financial reporting information

AR 56. The reconciliation of the significant amount of assets, liabilities, and net revenue (vulnerable to either material physical or transition risks) to the relevant line item or disclosure (e.g., in segment reporting) in the financial statements (as required by paragraph 65) may be presented by the undertaking as follows:

- (a) as a cross-reference to the related line item or disclosure in the financial statements if these amounts are identifiable in the financial statements; or
- (b) If these cannot be directly cross-referenced, as a quantitative reconciliation of each to the relevant line item or disclosure in the financial statement using the below tabular format:

Carrying amount of assets or liabilities or net revenue vulnerable to either material physical or transition risks	
Adjusting items	
Assets or liabilities or net revenue in the financial statements	

AR 57. The undertaking shall ensure the consistency of data and assumptions to assess and report the financial effects from material physical and transition risks in the sustainability report with the corresponding data and assumptions used for the financial statements (e.g., carbon prices used for assessing impairment of assets, the useful life of assets, estimates and provisions). The undertaking shall explain the reasons for any inconsistencies (e.g., if the full financial implications of climate-related risks are still under assessment or are not deemed material in the financial statements).

AR 58. For potential future effects on liabilities (as required by paragraph 64(d)), if applicable, the undertaking shall cross-reference the description of the emission trading schemes in the financial statements.

Climate-related opportunities

AR 59. When disclosing the information under paragraph 66(a), the undertaking shall explain the nature of the cost savings (e.g., from reduced energy consumption), the time horizons and the methodology used, including the scope of the assessment, critical assumptions, and limitations, and whether and how scenario analysis was applied.

AR 60. When disclosing the information required under paragraph 66(b), the undertaking shall explain how it has assessed the market size or any expected changes to net revenue from low-carbon products and services or adaptation solutions including the scope of the assessment, the time horizon, critical assumptions, and limitations and to what extent this market is accessible to the undertaking. The information on the market size may be put in perspective to the current taxonomy-aligned revenue disclosed under the provisions of the Regulation (EU) 2020/852. The entity may also explain how it will pursue its climate-related

opportunities and, where possible, this should be linked to the disclosures on policies, targets and actions under Disclosure Requirements E1-2, E1-3 and E1-4.

Application Requirements-Pollution

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

List of pollutants to be considered

- AR 61. When providing information under paragraph xx, the undertaking shall follow the below definitions, with those in Appendix A:
- AR 62. Air pollutants means direct emissions of:
- (a) sulphur dioxides (SO₂)
 - (b) nitrogen oxides (NO_x)
 - (c) non-methane volatile organic compounds (NMVOC), and
 - (d) fine particulate matter (PM_{2,5}) as defined in Article 3, points (5) to (8), of Directive (EU) 2016/2284 of the European Parliament and of the Council;
 - (e) ammonia (NH₃) as referred to in that Directive; and
 - (f) heavy metals (HM) as referred to in Annex I to that Directive.
- AR 63. Emissions to water means direct emissions of:
- (a) priority substances as defined as defined by Annex I to Directive 2013/39/EU, that replaces Annex X of the Directive 2000/60/EC of the European Parliament and of the Council; and
 - (b) nitrates, phosphates and pesticides (plant protection products and biocides).
- AR 64. Inorganic pollutants are defined as emissions within or lower than the emission levels associated with the best available techniques (BAT-AEL) as defined in Article 3, point (13) of Directive 2010/75/EU of the European Parliament and of the Council, for the Large Volume Inorganic Chemicals- Solids and Others industry.
- AR 65. Ozone-depleting substances means substances listed in the Montreal Protocol on Substances that Deplete the Ozone Layer.
- AR 66. The information to be provided on microplastics under paragraph **Error! Reference source not found.** shall include microplastics that have been generated or used during production processes or that are procured, and that leave its facilities as emissions, as products, or as part of products or services. Microplastics may be unintentionally produced when larger pieces of plastics like car tyres or synthetic textiles wear and tear or may be deliberately manufactured and added to products for specific purposes (e.g., exfoliating beads in facial or body scrubs).
- AR 67. The volume of pollutants shall be presented in tonnes or kilogrammes.

Contextual information

- AR 68. The information required under this Disclosure Requirement is provided at group level. However, the undertaking may elect to 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 69. When providing contextual information on the emissions, the undertaking may consider:
- (a) the local air quality indices (AQI) for the area where the undertaking's air pollution occurs;
 - (b) the degree of urbanisation (DEGURBA)⁴² for the area where air pollution occurs; and

⁴² [https://ec.europa.eu/eurostat/web/degree-of-urbanisation/background#:~:text=The%20Degree%20of%20urbanisation%20\(DEGURBA,based%20on%202020%20Census%20results](https://ec.europa.eu/eurostat/web/degree-of-urbanisation/background#:~:text=The%20Degree%20of%20urbanisation%20(DEGURBA,based%20on%202020%20Census%20results)

(c) the undertaking's percentage of the total emissions of pollutants to water and soil occurring in areas of high-water stress (as defined in [draft] ESRS E3 Appendix A *Defined terms*);

AR 70. The information provided under this Disclosure Requirement may refer to information the undertaking is already required to report under other existing legislation (i.e., IED, E-PRTR, etc.).

AR 71. Where the undertaking's activities are subject to the Industrial Emission Directive (IED) 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) IED that are associated with the implementation of BAT-AELs.

Methodologies

AR 72. When providing information on pollutants, the undertaking shall consider approaches for quantification in the following order of priority:

- (a) direct measurement of emissions, effluents or other pollution through the use of recognised continuous monitoring systems (e.g., AMS Automated Measuring Systems);
- (b) periodic measurements;
- (c) calculation based on site-specific data;
- (d) calculation based on published pollution factors; and
- (e) estimation.

AR 73. Regarding the disclosure of methodologies required by paragraph 42, the undertaking shall consider:

- (a) whether its monitoring is carried out in accordance with EU BREF Standards⁴³ or another relevant reference benchmark; and
- (b) whether and how the calibration tests of the AMS were undertaken and the verification of periodic measurement by independent labs were ensured.

Disclosure Requirement E2-2 – Substances of concern and substances of very high concern

List of substances to be considered

⁴³ EU Best Available Techniques reference documents (BREFs) are a series of reference documents covering, as far as is practicable, the industrial activities listed in Annex 1 to the EU's IPPC Directive. They provide descriptions of a range of industrial processes and for example, their respective operating conditions and emission rates. Member States are required to take these documents into account when determining best available techniques generally or in specific cases under the Directive.

AR 74. When providing information under paragraph 44, the undertaking shall follow the definitions from Appendix A of this [draft] Standard.

AR 75. 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).

AR 76. The volume of pollutants shall be presented in tonnes or kilogrammes.

Contextual information

AR 77. The information provided under this Disclosure Requirement may refer to information the undertaking is already required to report under other existing legislation (i.e., IED, E-PRTR...). If the undertaking incorporates the information by reference, it shall follow the provisions in [draft] ESRS 1.

Application Requirements-Water and Marine Resources

Disclosure Requirement E3-1 – Water consumption

AR 78. When disclosing contextual information on water management performance required by paragraph 47, the undertaking shall explain the calculation methodologies and more specifically the share of the measure obtained from direct measurement, from sampling and extrapolation, or from best estimates.

Application Requirements-Biodiversity

Disclosure Requirement E4-1 – Transition plan on biodiversity and ecosystems

AR 79. Targets under paragraph 55(a)iii may be:

- (a) the following targets under the EU Nature Restoration Plan:
 - i. 5 - The decline of pollinators is reversed.
 - ii. 6 - The risk and use of chemical pesticides is reduced by 50%, and the use of more hazardous pesticides is reduced by 50%.
 - iii. 8 - At least 25% of agricultural land is under organic farming management, and the uptake of agro-ecological practices is significantly increased.
 - iv. 9 - Three billion additional trees are planted in the EU, in full respect of ecological principles.
 - v. 10 - Significant progress in the remediation of contaminated soil sites.
 - vi. 11 - At least 25,000 km of free-flowing rivers are restored.
 - vii. 13 - The losses of nutrients from fertilisers are reduced by 50%, resulting in the reduction of the use of fertilisers by at least 20%.
 - viii. 15 - The negative impacts on sensitive species and habitats, including on the seabed through fishing and extraction activities, are substantially reduced to achieve good environmental status.
- (b) enabling Transformative Change:
 - i. Business for biodiversity⁴⁴
 - ii. Financing for biodiversity⁴⁵

⁴⁴ <https://dopa.jrc.ec.europa.eu/kcbd/actions-tracker/#Business%20for%20biodiversity>

⁴⁵ <https://dopa.jrc.ec.europa.eu/kcbd/dashboard/#Financing%20for%20biodiversity>

AR 80. When providing information under paragraph 55, the undertaking may in addition to the mentioned frameworks and policies consider the Sustainable Development Goals using the SDG Compass⁴⁶

as guidance and with focus on the following targets:

- (a) 2 - End hunger, achieve food security and improved nutrition and promote sustainable agriculture⁴⁷;
- (b) 6 - Ensure availability and sustainable management of water and sanitation for all⁴⁸;
- (c) 14 - Conserve and sustainably use the oceans, seas and marine resources for sustainable development⁴⁹; and
- (d) 15 - Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss⁵⁰.

Disclosure Requirement E4-2 – Impact metrics related to biodiversity and ecosystems change

AR 81. The undertaking shall consider and describe these considerations as per the following when preparing the information required under this Disclosure Requirement:

- (a) methodologies and metrics used and explanation for why these methodologies and metrics are selected, as well as their assumptions, limitations and uncertainties, as well as any changes in methodologies made over time and why they occurred;
- (b) the scope of the metrics and methodologies:
 - i. undertaking, site, brand, commodity, corporate business unit, activity;
 - ii. entire value chain, upstream or downstream value chain, or own operations and leased assets;
 - iii. aspects (as set out in paragraph AR 4) covered.
- (c) the biodiversity components of the metrics: species specific, ecosystem specific;
- (d) a description of the geographies covered by the methodology and, an explanation of why the relevant geographies identified were not included;
- (e) how the metrics integrate ecological thresholds (e.g., the biosphere integrity and land-system change planetary boundaries⁵¹) and allocations;
- (f) the frequency of monitoring, key indicators being monitored, and the baseline condition/value and baseline year/period, as well as the reference period;
 - i. whether the parametrisation of these metrics rely on primary data, secondary data, modelled data or on expert judgement, or a mixture of these;
 - ii. an indication of which action is measured and monitored via the metrics and how they relate to the achievement of targets;
 - iii. whether metrics are mandatory (based on legislation) or voluntary. If they are mandatory, the undertaking may consider listing the relevant legislation; if voluntary, refer to the voluntary standard/procedure used; and

⁴⁶

https://www.globalcompact.de/fileadmin/user_upload/Dokumente_PDFs/SDG_Compass_English.pdf

⁴⁷ <https://sdgs.un.org/goals/goal2>

⁴⁸ <https://sdgs.un.org/goals/goal6>

⁴⁹ <https://sdgs.un.org/goals/goal14>

⁵⁰ <https://sdgs.un.org/goals/goal15>

⁵¹ A description of the nine planetary boundaries can be found here : <https://www.stockholmresilience.org/research/planetary-boundaries/the-nine-planetary-boundaries.html>.

iv. whether the metrics are informed by or correspond to expectations or recommendations of relevant and authoritative national, EU-level or intergovernmental guidelines, policies, legislation or agreements, such as the Convention for Biological Diversity (CBD) and IPBES.

AR 82. When selecting metrics, the undertaking shall consider using and describing these considerations to use technically robust and verifiable information, as well as data and methods that, from a scientific perspective, are fit for decision making and responsive to decision making over the appropriate timeframe and spatial scale. For example, there should be an accepted theory of the relationship between the indicator and the purpose, with agreement that change in the indicator indicates change in the issue of concern. Uncertainties should be reduced as far as possible. Data or mechanisms used should be supported by well-established organisations and updated over time. Robust modelled data and expert judgment can be used where data gaps exist⁵². The methodology must be sufficiently detailed to allow for meaningful comparison of impacts and mitigation activities over time. Information gathering processes and definitions must be systematically applied. This enables a meaningful review of the undertaking's performance over time and helps internal and peer comparison⁵³.

AR 83. If a metric corresponds to a target, the baseline for both shall be aligned. The biodiversity baseline is an essential component of the larger biodiversity and ecosystems management process. The baseline is necessary to inform impact assessment and management planning, as well as monitoring and adaptive management⁵⁴. The undertaking may refer to the work in "Good Practices for the Collection of Biodiversity Baseline Data" (Gullison, 2015) for baseline creation, and in particular the checklist available on page 18.

AR 84. When identifying relevant metrics, the undertaking may refer to the biodiversity and ecosystems-related indicators listed for the Sustainable Development Goals⁵⁵, IPBES Assessment Report 2019⁵⁶ and the Report on biodiversity measurement approaches developed by the Business for Biodiversity Platform⁵⁷.

AR 85. Methodologies available to collect data and measure the undertakings' impacts on biodiversity state may be separated into three categories as follows⁵⁸:

- (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:
 - i. 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. Range layers, each will have differing levels of accuracy depending on 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;
 - ii. 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;
- (c) modelled biodiversity state data: Model-based approaches are commonly used for measuring ecosystem level indicators (e.g., extent, condition, or function). Models

⁵² Source: UNEP-WCMC, Conservation International and Fauna and Flora International, 2020.

⁵³ Source: UNEP-WCMC, Conservation International and Fauna and Flora International, 2020.

⁵⁴ Source: Gullison, R.E., J. Hardner, S. Anstee, M. Meyer. 2015. Good Practices for the Collection of Biodiversity Baseline Data. Prepared for the Multilateral Financing Institutions Biodiversity Working Group and Cross-Sector Biodiversity Initiative.

⁵⁵ Source: <https://sustainabledevelopment.un.org/content/documents/11803Official-List-of-Proposed-SDG-Indicators.pdf>

⁵⁶ Supplementary material in chapter 2.2 available at <https://ipbes.net/global-assessment>.

⁵⁷ Source: https://ec.europa.eu/environment/biodiversity/business/news/news-277_en.htm

⁵⁸ Source: Align (2022), "Recommendations for a standard on 8 biodiversity measurement and valuation, draft 01", unpublished.

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.

- AR 86. 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)⁵⁹.
- AR 87. The undertaking may refer to the “Land-use related environmental indicators for Life Cycle Assessment” by the Joint Research Center⁶⁰ or an equally established scientific approach, when disclosing on paragraph 39.
- AR 88. When disclosing under paragraph **Error! Reference source not found.** on the introduction of invasive alien species, the undertaking may refer to the guidance provided by TNFD on invasive alien species removal. The undertaking may further disclose, for example, the pathways and number of invasive alien species or the extent of surface covered by invasive alien species.
- AR 89. When reporting on the state of species under paragraph:
- 65(b)i, the undertaking may consider that contribution to extinction risk metrics use threat assessments and range sizes of the species present at a given location to estimate how different activities at that location may drive species extinctions globally.
- 65(b)ii, the undertaking may consider that changes in species area of habitat-metrics measure the change in habitat size as a proxy of a change to a species population size. Indicators such as these can be used when direct population counts are not possible to obtain, however, direct in-situ population measures are preferred.
- AR 90. When disclosing under paragraph **Error! Reference source not found.** on the extent and condition of ecosystems, the undertaking may refer to metrics and information provided by the United Nations System of Environmental Economic Accounting Ecosystem Accounting (UN SEEA EA)⁶¹.
- AR 91. The undertaking may disclose in units of area (e.g., m² or ha) on land-use using guidance provided by the Eco-Management and Audit Scheme (EMAS)⁶²:
- (a) total use of land;
 - (b) total sealed area;
 - (c) total nature-oriented area on site; and
 - (d) total nature-oriented area off site.
- AR 92. 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. The undertaking may refer to the CDSB Biodiversity Application Guidance 2021⁶³:
- AR 93. Land cover is a typical variable that can be assessed with earth observation data. Examples include: Validated global land-cover datasets have been produced annually since 2015 by the Copernicus Global Land Service⁶⁴. A high-resolution alternative is ESA’s WORLDCOVER⁶⁵ dataset, a global land cover map with a spatial resolution of 10 meters.

⁵⁹ Source: Align (2022), “Recommendations for a standard on 8 biodiversity measurement and valuation, draft 01”, unpublished

⁶⁰ https://eplca.jrc.ec.europa.eu/uploads/QMS_H08_MonscenReff_del-land-use_FINAL.pdf

⁶¹ <https://seea.un.org/ecosystem-accounting/>

⁶² 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).

⁶³ Source: https://www.cdsb.net/sites/default/files/biodiversity-application-guidance-single_disclaimer.pdf

⁶⁴ Source: <https://land.copernicus.eu/global/products/lc>

⁶⁵ Source: <https://esa-worldcover.org/en>

However, this dataset has so far only been generated for the year 2020, so no changes can be assessed yet, but an annual calculation is envisaged. Alternatively, the undertaking may refer to the following metrics and open-access tools: the Invest Habitat Quality Model, the Corine Land Cover, the ESRI Land Cover, the catalogue of Earth Engine Data, the Eurostat Land Use and Land Cover Survey, the habitat modification metric from the ENCORE database or the Biodiversity Intactness Index⁶⁶.

AR 94. Data layers on the ranges of different species may be used to predict the species that may be present at different locations. This includes operation sites and sourcing locations. Range layers has differing levels of accuracy depending on 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.

AR 95. When reporting on material impacts related the ecosystems under paragraph 65, the undertaking may consider a third aspect of on the functioning of ecosystems by using:

- (a) an indicator that measures a process (or function) that the ecosystem completes or reflects the ability to undertake that specific process (or function): e.g., net primary productivity, which is the measure of plant productivity that measures the rate that 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
- (b) an indicator that measures changes to the population of scientifically identified.

AR 96. When reporting on impacts contributing to state changes under paragraph 65, indicators for ecosystem extent and condition shall form the core of measurements but can be supplemented with species level indicators for a more complete assessment.

AR 97. 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-Circular Economy

Disclosure Requirement E5-1 – Resource inflows

AR 98. The disclosure shall include a description of its material inflows: products (including packaging) and materials, and property, plant and equipment used in the undertaking's own operations and along the value chain.

AR 99. For undertakings for which inflows are material and those active in one of “key products value chain”, as defined in the EU Circular Economy action plan⁶⁷, the undertaking shall include, in tonnes or kilo, at the reporting period:

- (b) the overall total weight of products and materials used during the reporting period;
- (c) the weight in both absolute value and percentage of renewable input materials from regenerative sources used to manufacture the undertaking's products and services (including packaging); and

⁶⁶ <https://naturalcapitalproject.stanford.edu/software/invest>,
<https://land.copernicus.eu/pan-european/corine-land-cover>,
<https://livingatlas.arcgis.com/landcover/>,
<https://developers.google.com/earth-engine/datasets/tags/landcover>,
https://ec.europa.eu/eurostat/statistics-explained/index.php?title=LUCAS_-_Land_use_and_land_cover_survey, <https://encore.naturalcapital.finance/en/drivers/7>,
[https://www.nhm.ac.uk/our-science/data/biodiversity-indicators/about-the-biodiversity-intactness-index.html#:~:text=The%20Biodiversity%20Intactness%20Index%20\(BII,given%20area%2C%20despite%20human%20impacts.\)](https://www.nhm.ac.uk/our-science/data/biodiversity-indicators/about-the-biodiversity-intactness-index.html#:~:text=The%20Biodiversity%20Intactness%20Index%20(BII,given%20area%2C%20despite%20human%20impacts.))

⁶⁷ [A new Circular Economy Action Plan \(europa.eu\)](#)

(d) the weight in both absolute value and percentage, of reused or recycled products and materials (non-virgin) used to manufacture the undertaking's products and services (including packaging).

AR 100. The undertaking shall provide information on the methodologies used to calculate the data. It shall specify whether the data is sourced from direct measurement or estimations, and disclose the key assumptions used.

Disclosure Requirement E5-2 - Resource outflows

AR 101. Products and materials information to be provided under paragraph 73 refer to all materials and products that come out of the undertaking's production process and that a company puts on the market (including packaging).

AR 102. When compiling the percentage indicator, the undertaking shall use as denominator the overall total weight of materials used during the reporting period.

AR 103. Products and services referred to in paragraph 74(b) may cover for instance:

- (a) prevention of waste and pollution by customers (e.g., smart waste collection system);
- (b) increase of the longevity of other products further down in the value chain;
- (c) increase recycling yield (quantity and quality) of products further down in the value chain (e.g., materials that separate adhesives from cardboard);
- (d) decrease the level of post-consumer waste.

AR 104. The undertaking may also provide information on its products and materials that are actually recirculated in practice though strategies described under paragraphs 74(a)i to 74(a)viii.

AR 105. Type of waste is to be understood as hazardous or non-hazardous waste for instance. Some specific waste, such as radioactive waste, may also be presented as a separate type.

AR 106. 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.

AR 107. Examples of other types of recovery operations under paragraph **Error! Reference source not found.** may be found in Annex II of the Waste framework directive⁶⁸.

AR 108. Examples of other types of disposal operations under paragraph **Error! Reference source not found.** may be found in Annex I of the Waste framework directive (dumping, open burning, or deep well injection for example).

AR 109. When providing contextual information under paragraph 78 the undertaking may:

- (e) explain the reasons for high weights of waste directed to disposal (e.g., local regulations that prohibit landfilling of specific types of waste);
- (f) describe sector practices, sector standards, or external regulations that mandate a specific disposal operation; and
- (g) specify whether the data has been modelled or sourced from direct measurements, such as waste transfer notes from contracted waste collectors.

⁶⁸ [Waste framework directive](#)



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