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V3

DRAFT EUROPEAN SUSTAINABILITY REPORTING STANDARD

LSME ESRS SECTION 4 ENVIRONMENTAL DISCLOSURES

DISCLAIMER (to be revised)

.Section 4 Environmental Disclosures set out in paragraphs xx to xx and Appendices A: *Defined terms (to be centralised)* 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 between January- and June 2023.

This draft has been developed as a markup from [draft] ESRS (November 2022). Following the release of the EC DA ESRS set1 (June 2023), this draft has been adjusted to include the changes.

Parts in grey are modified based on the new EC DA ESRS set1 (June 2023). This includes the "may" datapoints that were deleted following the SRTEG's approach of only keeping voluntary datapoints if they impact the value chain cap. To also note that the appendices of each of the sections are not yet updated. The ARs need to be further adjusted.
Parts in yellow are to be adjusted.

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 and Actions adopted to manage material sustainability matters, and Disclosure IR-4 – Targets in relation to sustainability matters. All EU datapoints have been preserved.
- 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 working paper of ex EFRAG PTF on a VSME (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 simplified and centralised in this section as E-6. The DR E1-4 (financial effects from material physical and transition risks and potential climate-related opportunities) is maintained as separate DR in E1 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

Following the SR TEG drafting session on 12 May, the following simplifications have been introduced:

- Climate Transition Plan has been deleted as a DR, its datapoints are moved to the Section 2 Centralized Disclosure on Targets, in the Ars - including the EU/Pillar 3 related datapoint (highlighted in yellow)
- Transition Plan for Biodiversity was deleted with same logic. Additional rationale stems from EC DA ESRS (phase-in and voluntary E4)
- Scope 1 and 2 GHG emissions and Energy consumption and mix (renewable energy): granularity was reduced.

Following the SR TEG drafting session on 21 June, the following changes have been included:

- The disclosures on biodiversity that were made "voluntary "in the new EC Delegated Act were analysed to identify the value chain dimension . In E4-1 of this draft the following DR was identified: "If the undertaking has identified material impacts with regards to land-use change, or impacts on the extent and condition of ecosystems, it may also disclose their land-use based on a Life Cycle Assessment.".
- This DR was kept as a "may "disclosure in V3 LSME ESRS due to its value chain dimension.
- The other datapoints that were made voluntary in the EC delegated Acts and that have no impact on value chain were deleted from v3 LSME ESRS.

All Appendixes and cross-references need to be revised.

Table of contents

Objective

1. The objective of the Environmental Disclosures in this [draft] Standard E1, E2, E3, E4 and E5 (referred to as "Environmental topics") is to specify Disclosure Requirements which will enable users of ***sustainability statements*** to understand:

    (a) how the undertaking affects the environmental topics in terms of material negative actual or potential impacts, including:

    i. climate change (E1),

    ii. ***pollution*** of air, water and ***soil*** (E2),

    iii. water and ***marine resources*** (E3),

    iv. biodiversity and ecosystems (E4)

    v. resource use, including the depletion of non-renewable resources and the regenerative production of renewable resources (referred to as "resource use and circular economy") (E5);

    (b) the plans and capacity of the undertaking to adapt its ***strategy*** and ***business model(s)*** in line with the transition to a sustainable economy and international agreements on the environmental topics, including:

    i. the alignment with the Paris Agreement (or an updated international agreement on climate change) and the objective of limiting global warming to 1.5°C (E1),

    ii. the alignment with the European Green Deal's ambitions for prevention, control and elimination of pollution and the objective of creating a toxic-free environment with zero pollution in support of the EU Action Plan "Towards a Zero Pollution for Air, Water and Soil" (E2),

    iii. the alignment with the European Green Deal's ambitions for fresh air, clean water, a healthy soil and biodiversity and the objective of 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 (E3);

    iv. the alignment with respecting the planetary boundaries of the biosphere integrity and land-system change, [the 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 (E4);

    v. the alignment 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. It builds on EU Circular Economy Action Plan, the Waste Framework directive and the EU industrial strategy (E5).

    (c) any ***actions*** taken by the undertaking, and the result of such actions to prevent, mitigate or remediate potential negative impacts on the environmental topics, including:

i. to reduce GHG emissions (E1),

ii. to prevent, control and reduce ***pollution*** (E2),

iii. to reduce ***water consumption*** and to protect water and marine resources (E3),

iv. to protect and restore ***biodiversity*** and ***ecosystems*** (E4),

v. to help decoupling the economic growth from the use of materials (E5);

(d) the nature, type and extent of the undertaking's material risks arising from the undertaking's impacts and ***dependencies*** on the environmental topics, and how the undertaking manages them; and

(e) the ***financial effects*** on the undertaking over the short-, medium- and long-term time horizons of risks arising from the undertaking's impacts and dependencies on the environmental topics.

2. This [draft] Section 3 covers Disclosure Requirements related to the following sustainability matters:

(a) ***'Climate change mitigation'***, ***'Climate change adaptation'*** and 'Energy' under the [draft] Standard E1, considering the following.

i. The sustainability matter '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 (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PCFs), sulphur hexafluoride (SF_6) and nitrogen trifluoride (NF_3). It also covers Disclosure Requirements on how the undertaking addresses its GHG ***emissions*** as well as the associated ***transition risks***.

ii. The sustainability matter '***Climate change adaptation'*** relates to the undertaking's process of adjustment to actual and expected climate change.

iii. The [draft] Standard E1 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.

iv. The requirements related to 'Energy' cover all types of energy production and consumption.

(b) ***Pollution*** of air, Pollution of water, Pollution of ***soil***, ***Substances of concern***, including ***Substances of very high concern***, under the [draft] chapter E2, considering the following.

i. "***Pollution*** of air" refers to the undertaking's ***emissions*** into air (both indoor and outdoor), and prevention, control and reduction of such emissions.

ii. ***"Pollution*** of water" refers to the undertaking's ***emissions*** to water, and prevention, control and reduction of such emissions ;

iii. ***"Pollution of soil*** refers to the undertaking's ***emissions*** into soil and the prevention, control and reduction of such emissions.

iv. With regard to ***"substances of concern***", this standard covers the undertaking's production, use and/or distribution and commercialisation of substances of concern, including ***substances of very high concern.*** Disclosure Requirements on substances of concern aim at providing users with an understanding of actual or potential impacts related to such substances, also taking account of possible restrictions on their use and/or distribution and commercialisation.

(c) 'Water' and ***'Marine resources'*** under the [draft] standard E3, considering the following.

i. With regard to "water", this standard covers ***surface water***, ***groundwater*** and produced water. It includes disclosure requirements on ***water consumption*** in the undertaking's activities, products and services, as well as related information on ***water withdrawals*** and ***water discharges.*** With regard to "***marine resources***" this standard covers the extraction and use of such resources, and associated economic activities..

(d) 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 peoples*** and other affected communities under the [draft] Standard E4, considering the following:

i. 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) 'Resource use' and 'circular economy' under the [draft] Standard E5 considering the following:

i. 'Resource inflows' include the circularity of material resource inflows, considering renewable and non-renewable resources;

ii. 'Resource outflows' include information on products and materials;

iii. 'Waste';

iv. '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.

v. To evaluate the transition from a "business as usual" to a circular economic system, the [draft] Standard E5 relies on the identification of resources, materials and products physical flows used by the undertaking through Disclosure Requirement E5-1 Resource inflows and Disclosure Requirement E5-2 Resource outflows.

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.

4. The Disclosure Requirements under E1 to E5 of this Section of the [draft] Standard take into account the requirements of related EU legislation and regulation (i.e., EU Climate Law, Regulation (EU) 2019/2088 (SFDR), Regulation (EU) 2020/852 (the EU Taxonomy), Commission Delegated Regulation (EU) 2020/1818 (Climate Benchmark Regulation), and EBA Pillar 3 ESG risk disclosure requirements.

Climate CHANGE (E1)

Disclosure Requirements – Climate Change (E1)

Disclosure Requirement E1-1– Energy consumption and mix

5. **The undertaking shall provide information on its energy consumption and mix.**
6. 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.
7. The disclosure required by paragraph 5 shall include the total energy consumption in MWh related to own operations disaggregated by:
   (a) Total energy consumption from fossil sources[3]
   (b) Total energy consumption from nuclear sources;
   (c) total energy consumption from renewable sources; and
   (d) 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 revenue[7]

8. The undertaking shall provide information on the energy intensity (total energy consumption per net revenue) associated with activities in ***high climate impact sectors***.
9. The disclosure on energy intensity required by paragraph 8 shall only be derived from the total energy consumption and net revenue from activities ***in high climate impact sectors***.
10. The undertaking shall specify the ***high climate impact sectors*** that are used to determine the energy intensity required by paragraph 8.
11. 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 8).

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

12. The undertaking shall disclose in metric tonnes of CO2eq its[8]:

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[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")

[4] This information supports the information needs of financial market participants subject to Regulation (EU) 2019/2088 as reflecting a mandatory indicator related to principal adverse impacts as set out by 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")

[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 #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").

[8] 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).

(a) gross Scope 1 GHG emissions;

(b) gross Scope 2 GHG emissions;

(c) gross Scope 3 GHG emissions; and

(d) total GHG emissions.

13. The objective of the Disclosure Requirement in paragraph 12 in respect of:

(a) gross ***Scope 1 GHG emissions*** as required by paragraph 12 (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 12(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 12(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 12(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***.

14. The information from this Disclosure Requirement is also needed to understand the undertaking's climate-related transition risks.

15. When disclosing the information on ***GHG emissions*** required under paragraph 12, the undertaking shall refer to [draft] LSME ESRS section 1 Reporting undertaking and value chain. In principle, the data on GHG emissions of its associates or joint ventures that are part of the undertaking's value chain (Section 1 par. XX) For 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). the undertaking shall include the GHG emissions in accordance with the extent of the undertaking ***operational control*** it has over themn.

16. 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).

17. The disclosure on gross ***Scope 1 GHG emissions*** required by paragraph 12 (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 if applicable

18. The disclosure on gross ***Scope 2 GHG emissions*** required by paragraph 12 (b) shall include:

(a) the gross location-based Scope 2 GHG emissions in metric tonnes of CO_2eq; and

(b) where applicable, the gross market-based Scope 2 GHG emissions in metric tonnes of CO_2eq.

19. For ***Scope 1 and Scope 2 emissions*** disclosed as required by paragraphs 12(a) and 12(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) investees such as associates, joint ventures, or unconsolidated subsidiaries that are not fully consolidated in the financial statements of the consolidated accounting group, as well as contractual arrangements that are joint arrangements not structured through an entity (i.e., jointly controlled operations and assets), for which it has operational control.

20. The disclosure of gross ***Scope 3 GHG emissions*** required by paragraph 12(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).

21. The disclosure of total ***GHG emissions*** required by paragraph 12(d) shall be the sum of ***Scope 1, 2*** and ***3 GHG emissions*** required by paragraphs 12(a) to 12(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 revenue[9]

22. The undertaking shall disclose its GHG ***emissions*** intensity. It shall provide the total GHG emissions in metric tonnes of CO_2eq (required by paragraph (d)) per net revenue.

23. 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 22).

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

24. The undertaking shall disclose any GHG removals and GHG mitigation projects it may have financed through any purchase of carbon credits.

25. 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.

26. 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 CO_2eq 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.

27. In the case where the undertaking may have made public claims of GHG neutrality that involve the use of ***carbon credits***, it shall explain:

[9] 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).

(a) Whether and how these claims are accompanied by GHG ***emmission reduction targets*** as required by Section 2 IR-4;

(b) Whether and how these claims and the resilience on carbon credits neither impede nor reduce the achievement of its GHG emmission reduction targets[10], or, if applicable, its net zero target; and

(c) The credibility and integrity of the carbon credits used, including by reference to recognised quality standards.

Disclosure Requirement E1-4– Anticipated financial effects from material physical and transition risks and potential climate-related opportunities

28. The undertaking shall disclose its:

(a) anticipated financial effects from material physical risks;

(b) anticipated financial effects from material transition risks.

29. The information required by paragraph 32 is in addition to the information on the current financial required under [draft] ESRS 2 SBM-3 para 38 (d). The objective of this Disclosure Requirement relates to:

(a) ***anticipated financial effects*** due to material ***physical risks*** and ***transition risks*** is to provide an understanding of how these risks have (or could reasonably be expected to have) a material influence on the undertaking's financial position, financial performance and cash flows, over the short-, medium- and long-term time horizons. The results of ***scenario analysis*** used to conduct resilience analysis should inform the assessment of anticipated financial effects from material physical and transition risks.

30. The disclosure of ***anticipated financial effects*** from material ***physical risks*** required by paragraph 28 shall include[13]:

(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 risk[14];

(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 risk[15]; 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.

31. The disclosure of ***anticipated financial effects*** from material transition risks required by paragraph 102 b shall include:

(a) the monetary amount and proportion (percentage) of assets at material transition risk over the short-, medium- and long-term time before considering ***climate mitigation actions;***

(b) the proportion of assets at material transition risk addressed by the ***climate change mitigation actions***;

[10] This information is aligned with the Regulation (EU) 2021/1119 of the European Parliament and of the Council (EU Climate Law), Article 2 (1).
[13] This information is aligned with the Commission Delegated Regulation (EU) 2020/1816 (Climate Benchmark Regulation), Annex II.
[14] 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.
[15] 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

(c) a breakdown of the carrying value of its real estate assets by energy-efficiency classes[16];

(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 activities[17];

32. The undertaking shall disclose reconciliations to the relevant line items or notes in the financial statements of the following:

(a) significant amounts of the assets and net revenue at material physical risk (as required by paragraph 31).

(b) significant amounts of the assets, liabilities, and net revenue at material transition risk (as required by paragraph 32).

33. 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.

34. For the disclosure of potential to pursue climate-related ***opportunities***, the undertaking may consider[18]:

(a) its expected cost savings from ***climate change mitigation*** and adaptation ***actions***; and

(b) 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.

[16] 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]
17 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
18 This information is aligned with the Commission Delegated Regulation (EU) 2020/1816 (Climate Benchmark Regulation), Annex II.

Pollution (E2)

Disclosure Requirements – Pollution (E2)

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

35. **The undertaking shall disclose the pollutants that** it emits through its own operations, as well as the microplastics it generates or uses.

36. **The objective of this Disclosure Requirement is to provide an understanding of the undertakings *emissions* to air, water and *soil* in its own operations and of its generation and use of microplastics.**

37. **The undertaking shall disclose the consolidated amount of:**

    (a) each pollutant listed in Annex II of the E-PRTR Regulation (European Pollutant Release and Transfer Register) emitted to air, water and soil[22];

    (b) microplastics generated or used by the undertaking.

38. 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.

39. 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

40. 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.

41. 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*** (voluntary), including exposure to those substances and risks arising from changes in regulations.

42. The disclosure required by paragraph 114 shall include the total amounts of ***substances of concern*** that are generated or used during the production or that are procured, and the total amounts of substances of concern that leave its facilities as emissions, as products, or as part of products or services split into main hazard classes of substances of concern.

22 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"); 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"). 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"). 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").

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

Water and Marine Resources (E3)

Disclosure Requirements-Water and Marine Resources (E3)

Disclosure Requirement E3- 1 – Water consumption

44. The undertaking shall disclose information on its water consumption performance related to its material impacts, risks (and opportunities voluntarily).

45. 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.***.

46. The disclosure required by paragraph 44 relates to own operations and shall include:

    (a) total water consumption in m^3;

    (b) total water consumption in m^3 in areas at material water risk, including ***areas of high-water stress***;

    (c) any contextual information necessary regarding the water 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.

    (d) total water recycled and reused in m^3; [27]

    (e) contextual information related to points (a)

47. The undertaking shall provide information on its ***water intensity***: total ***water consumption*** in m^3 per net revenue on own operations[29].

27 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).
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 #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).

Biodiversity and ecosystems (E4)

Disclosure Requirements-Biodiversity and ecosystems (E4)

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

48. The undertaking shall report metrics related to its material impacts resulting in *biodiversity* and *ecosystems*.

49. 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.

50. If the undertaking identified ***sites*** located in or near ***biodiversity-sensitive areas*** that it is negatively affecting[33] (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.

51. If the undertaking has identified material impacts with regards to land-use change, or impacts on the extent and condition of ***ecosystems***, it may also disclose their land-use based on a Life Cycle Assessment.

52. For datapoints specified in paragraphs 69 and 70, the undertaking shall consider its own operations.

53. 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***. The undertaking may disclose metrics that measure:

    (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).

        i.

Resource use and Circular economy (E5)

Disclosure Requirements- Resource use and Circular Economy (E5)

Disclosure Requirement E5-1 – Resource inflows

54. The undertaking shall disclose information on its resource inflows related to its material impacts, risks and opportunities (voluntary).

55. The objective of this Disclosure Requirement is to enable an understanding of the resource use in the undertaking's own operations and value chain.

56. The disclosure required by paragraph 55 shall include a description of its ***resource inflows*** where material: products (including ***packaging***) and materials (specifying critical raw materials and rare earths), and property, plant and equipment used in the undertaking's own operations and along the value chain.

57. When an undertaking assesses that resource inflows is a material sustainability matter, it shall disclose the following information about the materials used to manufacture the undertaking's products and services during the reporting period, in tonnes or kilogrammes:

    (a) the overall total weight of products and technical and biological materials used during the reporting period;

    (b) the percentage of biological materials (and biofuels used for non-energy purposes) used to manufacture the undertaking's products and services (including ***packaging***) that is sustainably sourced, with the information on the certification scheme used and on the application of the cascading principle; and

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

58. 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

59. The undertaking shall disclose information on its material resource outflows, including waste, related to its material impacts, risks and opportunities (voluntary).

60. 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 economy principles*** and ii) increasing or maximizing 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 pre-consumer waste is managed in its own activities.

Products and materials

61. 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***, recirculation by the biological cycle, or other optimisation of the use of the product or material through other circular business models.

62. The undertaking for which outflows are material shall disclose:

(a) The expected ***durability*** of the products placed on the market by the undertaking, in relation to the industry average for each product group;

(b) The reparability products, using an established rating system, where possible;

(c) The rates of recyclable content in products and their ***packaging***.

63. The undertaking shall disclose information on its waste.

Waste

64. 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 waste[38].

65. 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/Euratom39. 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.

66. 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.

38 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").

39 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").

Anticipated financial effects from material environmental-related impacts and risks other than climate (E6)

Disclosure Requirement E6 – Anticipated financial effects from material environmental-related impacts and risks other than climate

67. The undertaking shall disclose its ***anticipated financial effects*** of material environmental-related impacts and risks, concerning: pollution, water and marine resources, biodiversity and ecosystems and circular economy. The disclosure shall include:

    (a) a quantification of the ***anticipated*** financial effects in monetary terms, or where not possible without undue cost or effort qualitative information (for opportunities, such quantification is not required). The quantification of the anticipated financial effects in monetary terms may be a single amount or a range;

    (b) a description of the effects considered, the related impacts and **dependencies** to which they relate and the time horizons in which they are likely to materialise; and

    (c) the critical assumptions used to quantify the ***anticipated financial effects***, as well as the sources and level of uncertainty attached to those assumptions.

68. For potential financial effects arising from material physical and transition risks and potential climate-related opportunities, the undertaking shall refer to Disclosure Requirement E1-4 of this section.

Appendix A: Defined terms (to be moved to centralised glossary)

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

Air pollutants	Direct emissions of sulphur dioxides (SO2), nitrogen oxides (NOx), non-methane volatile organic compounds (NMVOC), and fine particulate matter (PM2,5) as defined in Article 3, points (5) to (8), of Directive (EU) 2016/2284 of the European Parliament and of the Council (15), ammonia (NH3) 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)	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: 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.[40]
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.

[40] Source: Industrial Emissions Directive (IED), Article 3

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.[41]
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.[42]
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 (CO_2) equivalent (eq)~~	~~The amount of carbon dioxide (CO_2) 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.~~ ~~CO_2eq 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.

[41] Source: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32012D0119&from=EN

[42] Source: Industrial Emissions Directive (IED), Article 3

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.
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	Emissions reduction: decrease in Scope 1, 2, 3 or total GHG emissions at the end of the reporting period, relative to baseline emissions; 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.
GHG removal and storage	(Anthropogenic) Removals refer to the withdrawal of GHGs from the atmosphere as a result of deliberate human activities. These include enhancing biological sinks of CO_2 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 CO_2 in the atmosphere, can reduce atmospheric CO_2 if it is combined with bioenergy production (BECCS). 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 CO_2 is subject to a wildfire, the emissions captured in the trees are reversed.
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_2O), carbon dioxide (CO_2), nitrous oxide (N_2O), 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_2O 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)	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.
Indirect GHG emissions (Scope 3)	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).
~~**Internal carbon price**~~	~~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.~~
Internal carbon pricing scheme	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).
Land use change uptakes and emissions	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)
Locked-in GHG emissions	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.
Nature-based solutions	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.
Net-zero target	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 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.

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 E1

Disclosure Requirement E1-1 – Energy consumption and mix

Calculation guidance

AR 1. When preparing the information on energy consumption required under paragraph XX, the undertaking shall:

(a) only report energy consumed from processes owned or controlled by the undertaking applying the same perimeter applied for reporting GHG Scopes 1 and 2 emissions;

(b) exclude feedstocks and fuels that are not combusted for energy purposes. The undertaking that consumes fuel as feedstocks can disclose information on this consumption separately from the required disclosures;

(c) ensure all quantitative energy-related information is reported in either Mega-Watt-hours (MWh) in Lower Heating Value or net calorific value. If raw data of energy-related information is only available in energy units other than MWh (such as Giga-Joules (GJ) or British Thermal Units (Btu)), in volume units (such as cubic feet or gallons) or in mass units (such as kilograms or pounds), they shall be converted to

MWh using suitable conversion factors (see for example Annex II of the Fifth Assessment IPCC report). Conversion factors for fuels shall be made transparent and applied in a consistent manner;

(d) ensure all quantitative energy-related information is reported as final energy consumption, referring to the amount of energy the undertaking actually consumes using for example the table in Annex IV of the EU Directive 2012/27 on energy efficiency;

(e) 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;

(f) not offset energy consumption even if on***site*** generated energy is sold to and used by a third party;

(g) not count energy that is sourced from within the organisational boundary under "purchased or acquired" energy;

(h) account for steam, heat or cooling received as "waste energy" from a third party's industrial processes under "purchased or acquired" energy;

(i) account for renewable hydrogen[43] 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

(j) 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[44] or similar instruments like Renewable Energy Certificates in the US and Canada, etc.).

AR 2. The information required under paragraph 11a) shall be disaggregated by type of non-renewable source and this shall be done only for ***high climate impact sectors***.

AR 3. The information on Energy consumption and mix may be presented using the following tabular format for ***high climate impact sectors*** and for all other sector by omitting rows (1) to (5).

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)		

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

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

(3) Fuel consumption from natural gas (MWh)		
(4) Fuel consumption from other fossil sources (MWh)		
(5) Consumption of purchased or acquired electricity, heat, steam, and cooling from fossil sources (MWh)		
(6) Total fossil energy consumption (MWh) (calculated as the sum of lines 1 to 5)		
Share of fossil sources in total energy consumption (%)		
(7) Consumption from nuclear sources (MWh)		
Share of consumption from nuclear sources in total energy consumption (%)		
(8) Fuel consumption for renewable sources, including biomass (also comprising industrial and municipal waste of biologic origin, biogas, 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 and low carbon energy consumption (MWh) (calculated as the sum of lines 8 to 10)		
Share of renewable and low carbon sources in total energy consumption (%)		
Total energy consumption (MWh) (calculated as the sum of lines 6, 7 and 11)		

AR 4. The total energy consumption with a distinction between fossil, nuclear and renewable energy consumption may be presented graphically 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 5. When preparing the information on energy intensity required under paragraph 37, the undertaking shall:

(a) calculate the energy intensity ratio using the following formula:

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

(b) express the total energy consumption in MWh and the net revenue in monetary units (e.g., Euros);

(c) the numerator and denominator shall only consist of the proportion of the total final energy consumption (in the numerator) and net revenue (in the denominator) that are attributable to activities in ***high climate impact sectors***. In effect, there should be consistency in the scope of both the numerator and denominator;

(d) calculate the total energy consumption in line with the requirement in paragraph 10;

(e) calculate the net revenue in line with the accounting standards requirements applicable for the financial statements, i.e., IFRS 15 *Revenue from Contracts with Customers* or local GAAP requirements.

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

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

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

AR 7. The reconciliation of net revenue from activities in ***high climate impact sectors*** to the relevant financial statements line item or disclosure (as required by paragraph 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 E1-2 – Gross Scopes 1, 2, 3 and Total GHG emissions

Calculation guidance

AR 8. When preparing the information for reporting GHG ***emissions*** as required by paragraph 41, the undertaking shall:

(c) consider the principles, requirements and guidance provided by the GHG Protocol Corporate Standard (version 2004). The undertaking may consider Commision Recommendation (EU) 2021/2279 or the requirements stipulated by 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);

(d) disclose the methodologies, significant assumptions and emissions factors used to calculate or measure GHG emissions accompanied by the reasons why they are chosen, and provide a reference or link to any calculation tools used;

(e) include emissions of CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, and NF_3. Additional GHG may be considered when significant; and

(f) use the most recent ***Global Warming Potential (GWP)*** values published by the IPCC based on a 100-year time horizon to calculate CO_2eq emissions of non-CO_2 gases.

AR 9. The undertaking may disaggregate its Scope 1, 2 and 3 GHG emissions by country, operating segments, economic activity, subsidiary, GHG category (CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, NF_3, and other GHG considered by the undertaking) or source type (stationary combustion, mobile combustion, process emissions and fugitive emissions) as appropriate.

AR 10. When disclosing the information on GHG emissions required under paragraph 11 taking into account the value chain, the following requirements shall apply:

(a) 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);

(b) 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).

(c) 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 11. 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 12. 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 13. When preparing the information on gross ***Scope 1 GHG emissions*** required under paragraph 26(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 CO_2 from the combustion or biodegradation of biomass separately from the Scope 1 GHG emissions, but include emissions of other types of GHG (in particular CH_4 and N_2O); and

(d) not include any removals, or any purchased, sold or transferred ***carbon credits*** or GHG allowances in the calculation of Scope 1 GHG emissions;

(e) for activities reporting under the EU ETS, report on Scope 1 emissions following the EU ETS methodology. The EU ETS methodology may also be applied to activities in geographies and sectors that are not covered by the EU ETS;

(f) disclose carbon uptakes and emissions (CO_2, CO, CH_4) 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 14. When preparing the information on the percentage of ***Scope 1 GHG emissions*** from regulated emission trading schemes required under paragraph 26(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 CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, and NF_3;

(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:

$$\frac{\text{GHG emissions in } (\text{t } CO_2\text{eq}) \text{from EU ETS installations } + \text{national ETS installations } + \text{nonEU ETS installations}}{\text{Scope 1 GHG emissions } (\text{t } CO_2\text{eq})}$$

AR 15. When preparing the information on gross Scope 2 GHG ***emissions*** required under paragraph 27, the undertaking shall:

(a) consider the principles and requirements of the GHG Protocol Scope 2 Guidance (version 2015, in particular the Scope 2 quality criteria in chapter 7.1 relating to contractual instruments). It may also consider Commission Recommendation (EU) 2021/2279 or the relevant requirements for the quantification of ***indirect GHG emissions*** from imported energy in EN ISO 14064-1:2018;

(b) include purchased or acquired electricity, steam, heat, and cooling consumed by the undertaking;

(c) avoid double counting of GHG emissions reported under Scope 1 or 3;

(d) apply the location-based and market-based methods to calculate Scope 2 GHG emissions and provide information on the share and types of contractual instruments;

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. The undertaking shall provide information about the share and types of contractual instruments used for the sale and purchase of energy bundled with attributes about the energy generation or for unbundled energy attribute claims.

(e) disclose biogenic emissions of CO_2 from the combustion or biodegradation of biomass separately from the Scope 2 GHG emissions but include emissions of other types of GHG (particularly CH_4 and N_2O). In case the emission factors applied do not separate the percentage of biomass or biogenic CO_2, the undertaking shall disclose this. In case GHG emissions other than CO_2 (particularly CH_4 and N_2O) are not available for, or excluded from, location-based grid average emissions factors or with the market-based method information, the undertaking shall disclose this; and

(f) not include any removals, or any purchased, sold or transferred ***carbon credits*** or GHG allowances in the calculation of Scope 2 GHG emissions; exclude any purchased, sold or transferred carbon credits or GHG allowances from the calculation of Scope 2 GHG emissions.

AR 16. When preparing the information on gross Scope 3 GHG ***emissions*** required under paragraph 30, the undertaking shall:

(a) consider the principles and provisions of the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard (Version 2011); and it may consider Commission Recommendation (EU) 2021/2279 or the relevant requirements for the quantification of ***indirect GHG emissions*** from 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), specifically part A "Financed Emissions" (version December 2022) and part C "Insurance-Associated Emissions" (version November 2022);

(c) screen its total Scope 3 GHG emissions based on the 15 Scope 3 categories identified by the GHG Protocol Corporate Standard and GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard (Version 2011) using appropriate estimates. Alternatively, it may screen its ***indirect GHG emissions*** based on the categories provided by 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. 61 and 65-68) or ISO 14064-1:2018 Annex H.3.2, such as financial spend, influence, related ***transition risks*** and ***opportunities*** or ***stakeholder*** views;

(e) calculate or estimate GHG emissions in significant Scope 3 categories using suitable emissions factors;

(f) update Scope 3 GHG emissions in each significant category every year on the basis of current activity data; update the full Scope 3 GHG inventory at least every three years or on the occurrence of a significant event or a significant change in circumstances (a significant event or significant change in circumstances can, for example, relate to changes in the undertaking's activities or structure, changes in the activities or structure of its value chain(s), a change in calculation methodology or in the discovery of errors);

(g) the extent to which the undertaking's Scope 3 GHG emissions are measured using inputs from specific activities within the entity's value chain, and for each significant Scope 3 GHG category disclose the percentage of emissions calculated using primary data obtained from ***suppliers*** or other ***value chain*** partners;

(h) for each significant Scope 3 GHG 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 CO_2 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 CH_4 and N_2O), and emissions of CO_2 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) not include any removals, or any purchased, sold or transferred ***carbon credits*** or GHG allowances in the calculation of Scope 3 GHG emissions;

AR 17. 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:

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

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

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

AR 19.

	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_2eq)								
Percentage of Scope 1 GHG emissions from regulated emission trading schemes (%)								
Scope 2 GHG emissions								
Gross location-based Scope 2 GHG emissions (tCO_2eq)								
Gross market-based Scope 2 GHG emissions (tCO_2eq)								
Significant scope 3 GHG emissions*								
Total Gross indirect (Scope 3) GHG emissions (tCO_2eq)								
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_2eq)								

Total GHG emissions (market-based) (tCO_2eq)								

AR 20. The Scope 3 GHG ***emissions*** may also be presented by according to the indirect emission categories defined in EN ISO 14064-1:2018.

AR 21. 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 22. 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 23. When disclosing the information on GHG intensity based on net revenue required under paragraph 32, the undertaking shall:

(a) calculate the GHG intensity ratio by the following formula:

$$\frac{Total\ GHG\ emissions\ (t\ CO_2eq)}{Net\ revenue\ (Monetary\ unit)};$$

(b) express the total GHG ***emissions*** in metric tonnes of CO_2eq 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 22 (d) and 31; 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 24. 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_2eq/Monetary unit)			
Total GHG emissions (market-based) per net revenue (tCO_2eq/Monetary unit)			

Connectivity of GHG intensity based on revenue with financial reporting information

AR 25. 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 E1-3 – GHG removals and GHG mitigation projects financed through carbon credits

GHG removals and storage in own operations and the value chain

AR 26. 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 33 and 35(b). 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 33 and 35.

AR 27. When disclosing the information on ***GHG removals and storage*** from the undertaking's own operations and its ***value chain*** required under paragraphs 33 and 35, 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 CO_2 capture and storage) and technological details about the removal, the type of storage and, if applicable, the transport of removed GHGs;

(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 28. When preparing the information on ***GHG removals and storage*** from the undertaking's own operations and its ***value chain*** required under paragraphs 33 and 35, 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, including transport and storage, under Disclosure Requirement E1-3 (Scopes 1, 2 or 3). To increase transparency on the efficiency of a removal activity, including transport and storage, the undertaking may disclose the GHG emissions associated with this activity (e.g., GHG emissions from electricity consumption of direct air capture technologies) alongside, but separately from, the amount of removed GHG emissions;

(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 CO_2eq emissions of non-CO_2 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 29. 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 30. The quantitative information on GHG removals may be presented by using the following tabular format.

Removals	Comparative	N	% N / N-1
GHG removal activity 1 (e.g.., forest restoration)	-		
GHG removal activity 2 (e.g.., direct air capture)	-		
…	-		
Total GHG removals from own operations (tCO_2eq)			
GHG removal activity 1 (e.g.., forest restoration)	-		
GHG removal activity 2 (e.g.., direct air capture)	-		
…	-		
Total GHG removals in the value chain (tCO_2eq)			
Reversals (tCO_2eq)			

GHG mitigation projects financed through carbon credits

AR 31. 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 33 and 36) and GHG ***emission reduction targets*** (Section 2 [draft] LSME ESRS). It also requires the undertaking to show the extent of use and which quality criteria it uses for those carbon credits.

AR 32. When disclosing the information on ***carbon credits*** required under paragraphs 33 and 36, the undertaking shall disclose the following disaggregation as applicable:

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

(j) for carbon credits from removal projects, an explanation whether they are from biogenic or technological sinks;

(k) the share (percentage of volume) for each recognised quality standard;

(l) the share (percentage of volume) issued from projects in the EU; and

(m) the share (percentage of volume) that qualifies as a corresponding adjustment under Article. 6 of the Paris Agreement.

Calculation guidance

AR 33. When preparing the information on ***carbon credits*** required under paragraphs 53(b) and 56, the undertaking shall:

(a) Consider ***recognised quality standards***;

(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 E1-3 (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 E1-4 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 CO_2eq over the duration of existing contractual agreements.

AR 34. 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 (tCO_2eq)		
Share from removal projects (%)		
Share from reduction projects (%)		
Recognised quality standard 1 (%)		
Recognised quality standard 2 (%)		
Recognised quality standard 3 (%)		
…		
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_2eq)	

Disclosure Requirement E1-4 – Anticipated financial effects from material physical and transition risks and potential climate-related opportunities

Anticipated financial effects from material physical and transition risks

AR 35. Material climate-related ***physical risks*** 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 ***anticipated*** financial effects that are outside the scope of the requirements of applicable accounting standards.

AR 36. Currently, there is no commonly accepted methodology to assess or measure how material ***physical risks*** and ***transition risks*** may affect the undertaking's future financial position, financial performance and cash flows. Therefore, the disclosure of the financial 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 ***anticipated financial effects***.

Calculation guidance - Anticipated financial effects from material physical risks

AR 37. When disclosing the information required under paragraphs 37(a) and 39, the undertaking shall explain whether and how:

(a) it assessed the ***anticipated 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 38. When preparing the information on assets at material physical risk that is required to be disclosed under paragraph 37(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 located45 in the EU territory shall be aggregated by NUTS codes 3 level digits (Nomenclature of Territorial Units for Statistics). 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 risk[46].

(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 39. 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 ***anticipated 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 - Anticipated financial effects from transition risk

AR 40. 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 41. When disclosing the information on assets at material transition risk as required under paragraphs 40(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.

[45] This disclosure requirement is consistent with the requirements of EBA Pillar 3 ITS- Template 5 exposures subjects to physical risk
[46] Ibid

(b) the undertaking shall disclose a breakdown of the carrying value of its real estate assets, including rights-of-use 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 EPC[47] (Energy Performance Certificate)[48] 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 42. When disclosing the information on potential liabilities from material ***transition risks*** required under paragraph 40(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:

(a) $$(gross\ Scope\ 1\ GHG\ emissions\ (t\ CO_2eq) + gross\ Scope\ 2\ GHG\ emission\ (t\ CO_2eq)) \times GHG\ emission\ cost\ rate\left(\frac{€}{t\ CO_2eq}\right)$$

ii. monetised total GHG emissions in the reporting year by the following formula:

(b) $$Total\ GHG\ emissions\ (t\ CO_2eq) \times GHG\ emission\ cost\ rate\ \left(\frac{€}{t\ CO_2eq}\right)$$

[47] 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).

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

iii. by use of a lower, middle and upper cost rate49 for GHG emissions (e.g., market carbon price and different estimates for the societal costs of carbon) and reasons for selecting them.

AR 43. 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 ***anticipated financial effects*** shall include a description of the methodologies and definitions used by the undertaking.

AR 44. 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 ***anticipated 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 45. The reconciliation of the significant amount of assets, liabilities, and net revenue (vulnerable to either material ***physical risks*** 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 46. The undertaking shall ensure the consistency of data and assumptions to assess and report the ***anticipated financial effects*** from material ***physical risks*** 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 47. 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.

49 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).

Climate-related opportunities

AR 48. When disclosing the information under paragraph 43, 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 49. When disclosing the information required under paragraph 43, 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 (E2)

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

AR 50. The information to be provided on microplastics under paragraph 27(e) shall include microplastics that have been generated or used during production processes or that are procured, and that leave the undertaking's facilities as emissions, as products, or as part of products or services. Microplastics may be unintentionally produced when larger pieces of plastics like car tires 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 51. The volume of ***pollutants*** shall be presented in appropriate mass units, for example in tonnes or kilogrammes.

AR 52. The information required under this Disclosure Requirement shall be provided at the level of the reporting undertaking. However, the undertaking may disclose additional breakdown including information at ***site*** level or a breakdown of its ***emissions*** by type of source, by sector or by geographical area.

Contextual information

AR 53. 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)[50] for the area where air pollution occurs; and

(c) the undertaking's percentage of the total emissions of pollutants to water and soil occurring in areas of high-water stress;

AR 54. 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 55. Where the undertaking's activities are subject to the Industrial Emission Directive (IED) and relevant Best Available Techniques Reference Documents (***BREFs***), irrespective on 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***.

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

Methodologies

AR 56. 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 57. Regarding the disclosure of methodologies required by paragraph 38, the undertaking shall consider:

(f) whether its monitoring is carried out in accordance with EU ***BREF*** Standards51 or another relevant reference benchmark; and

(g) 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

AR 58. 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 59. The volume of ***pollutants*** shall be presented in mass units, for example tonnes or kilogrammes or other mass units appropriate for the volumes and type of pollutants being released.

Contextual information

AR 60. 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 (E3)

Disclosure Requirement E3-1 – Water consumption

AR 61. When disclosing contextual information on water management performance required by paragraph 44, 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.

[51] 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.

Application Requirements-Biodiversity and ecosystems (E4)

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

AR 62. When preparing the information required under this Disclosure Requirement, the undertaking shall consider and describe:

(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;

(a) 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.

(b) the ***biodiversity*** components of the metrics: species specific, ecosystem specific;

(c) a description of the geographies covered by the methodology and, an explanation of why the relevant geographies identified were not included;

(d) how the metrics integrate ecological thresholds (e.g., the biosphere integrity and land-system change planetary boundaries[59]) and allocations;

(e) 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

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 63. The undertaking shall consider selecting ***metrics*** that are verifiable and that are technically robust considering the appropriate time scales geographies, and may disclose how its selected metrics correspond to those criteria. To ensure that the metric is relevant there should be a clear relationship between the indicator and the purpose of the measurement. 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 exist[60]. 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 comparison[61].

AR 64. 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

[59] A description of the nine planetary boundaries can be found here : https://www.stockholmresilience.org/research/planetary-boundaries/the-nine-planetary-boundaries.html.
[60] Source: UNEP-WCMC, Conservational International and Fauna and Flora International, 2020.
[61] Source: UNEP-WCMC, Conservational International and Fauna and Flora International, 2020.

process. The baseline is necessary to inform impact assessment and management planning, as well as monitoring and adaptive management[62]. 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 65. When identifying relevant metrics, the undertaking may refer to the biodiversity and ecosystems-related indicators listed for the Sustainable Development Goals[63], IPBES Assessment Report 2019[64] and the Report on biodiversity measurement approaches developed by the Business for Biodiversity Platform[65].

AR 66. Methodologies available to collect data and measure the undertakings' impacts on biodiversity state may be separated into three categories as follows[66]:

(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 o ecosystems can 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 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 67. 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)[67].

AR 68. With regard to life cycle assessment for land-use, the undertaking may refer to the "Land-use related environmental indicators for Life Cycle Assessment" by the Joint Research Center[68].

AR 69. With regard to the introduction of invasive alien species, the undertaking may disclose the pathways and number of ***invasive alien species*** and the extent of surface covered by invasive alien species.

AR 70. When reporting on the state of species under paragraph:

(a) XXX 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

[62] 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.

[63] Source: https://sustainabledevelopment.un.org/content/documents/11803Official-List-of-Proposed-SDG-Indicators.pdf

[64] Supplementary material in chapter 2.2 available at https://ipbes.net/global-assessment.

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

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

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

[68] https://eplca.jrc.ec.europa.eu/uploads/QMS_H08_MonscenReff_del-land-use_FINAL.pdf

estimate how different activities at that location may drive species extinctions globally.

(b) XXX 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 71. With regard to metrics 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)[69].

AR 72. The undertaking may disclose in units of area (e.g., m^2 or ha) on land-use using guidance provided by the Eco-Management and Audit Scheme (EMAS)[70]:

(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 73. 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 2021[71]:

AR 74. Land cover is a typical variable that can be assessed with earth observation data.

AR 75. When reporting on material impacts related to the ***ecosystems***, the undertaking may, in addition to the extent and condition of ecosystems, also consider the functioning of ecosystems by using:

(a) A metric that measures a process or function that the ecosystem completes, or that reflects the ability of the ecosystem to undertake that specific process or function: e.g., net primary productivity, which is 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) A metric that measures changes to the population of scientifically identified species under threat.

AR 76. At the ecosystem level, data layers reflecting change in the extent and condition of ***ecosystems*** may be applied, including levels of ***habitat fragmentation*** and connectivity.

Application Requirements- Resource use and Circular Economy (E5)

Disclosure Requirement E5-1 – Resource inflows

AR 77. Resource inflows may cover the following categories: IT equipment, textiles, furniture, buildings, heavy machinery, mid-weight machinery, light machinery, heavy transport, mid-weight transport, light transport and warehousing equipment. With regard to materials,

[69] https://seea.un.org/ecosystem-accounting/

[70] 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).

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

resource inflow indicators include raw materials, ***associated process materials***, and semi-manufactured goods or parts.

AR 78. When the undertaking is subject to paragraph 31 XX, it may also provide transparency on the materials that are sourced from ***by-products/waste*** stream (e.g., offcuts of a material that has not previously been in a product).

AR 79. The denominator of the percentage indicator required under paragraphs 31 (b) and (c) XX is the overall total weight of materials used during the reporting period.

AR 80. The reported usage data are to reflect the material in its original state, and not to be presented with further data manipulation, such as reporting it as “dry weight”.

AR 81. In cases where there is an overlap between categories of reused and recycled, the undertaking shall specify how double counting was avoided and the choices were made.

Disclosure Requirement E5-2 - Resource outflows

AR 82. Products and materials information to be provided under paragraph 76 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 83. When compiling the rate, the undertaking shall use as denominator the overall total weight of materials used during the reporting period.

AR 84. The undertaking may disclose its engagement in product end-of-life ***waste management***, for example through extended producer responsibility schemes or take-back schemes.

AR 85. Type of ***waste*** is to be understood as ***hazardous waste*** or non-hazardous waste. Some specific waste, such as radioactive waste, may also be presented as a separate type.

AR 86. 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 87. Examples of other types of ***recovery*** operations under paragraph XX**Error! Reference source not found.** may be found in Annex II of the Waste framework directive[72].

AR 88. Examples of other types of disposal operations under paragraph XX1(a) may be found in Annex I of the Waste framework directive (dumping, open burning, or deep well injection for example).

AR 89. When providing contextual information under paragraph XX66 the undertaking may:

(a) explain the reasons for high weights of ***waste*** directed to disposal (e.g., local regulations that prohibit landfilling of specific types of waste);

(b) describe sector practices, sector standards, or external regulations that mandate a specific disposal operation; and

(c) specify whether the data has been modelled or sourced from direct measurements, such as waste transfer notes from contracted waste collectors.

[72] Waste framework directive