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BEFORE IT IS FINALLY ISSUED**

DISCLAIMER

[Draft] ESRS 1 Climate change is set out in Paragraphs 1–67 and Appendices A: Defined terms and B: Application Requirements. All the paragraphs, including those in Appendices A and B, have equal authority. Each Disclosure Requirement objective is stated in a bold paragraph, followed by a paragraph with a description of the objective of the respective disclosures. This [draft] Standard also uses terms defined in other [draft] ESRS and should be read in the context of its stated objective.

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Objective

1. The objective of this [draft] Standard is to specify disclosure requirements which will enable users of sustainability statements to understand:
 - (a) how the undertaking affects climate change, in terms of positive and negative material actual and potential impacts;
 - (b) the undertaking's past, current, and future mitigation efforts in line with the Paris Agreement (or an updated international agreement on climate change) and limiting global warming to 1.5°C;
 - (c) the plans and capacity of the undertaking to adapt its business model(s) and operations in line with the transition to a sustainable economy and to contribute to limiting global warming to 1.5°C;
 - (d) any other actions taken by the undertaking, and the result of such actions to prevent, mitigate or remediate actual or potential adverse impacts;
 - (e) the nature, type and extent of the undertaking's material risks and opportunities arising from the undertaking's impacts and dependencies on climate change, and how the undertaking manages them; and
 - (f) the effects of risks and opportunities (i.e., those related to the undertaking's impacts and dependencies on climate change) on its development, performance, and position over the short-, medium- and long-term. And therefore inform on the undertaking's ability to generate risks or opportunities that either significantly influence or are likely to significantly influence its future cash flows, business model, strategy, access to finance, and cost of capital.
2. The requirements of this [draft] Standard are derived from the [Corporate Sustainability Reporting Directive], which states that the sustainability reporting standards shall specify which information to disclose about climate change mitigation and climate change adaptation. The requirements of this [draft] Standard take into account the requirements of related EU legislation and regulation (i.e., EU Climate Law, Climate Benchmark Standards Regulation, Sustainable Finance Disclosure Regulation (SFDR), EU Taxonomy, and EBA Pillar 3 disclosure requirements).
3. This [draft] Standard covers disclosure requirements related to "Climate change mitigation", "Climate change adaptation" and "Energy".
4. Climate change mitigation relates to the undertaking's endeavours to the general process of holding the increase in the global average temperature to well below 2 °C and pursuing efforts to limit it to 1,5 °C above pre-industrial levels, as laid down in the Paris Agreement. This [draft] Standard covers disclosure requirements related but not limited to the seven Greenhouse Gases (GHG) carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PCFs), sulphur hexafluoride (SF₆) and nitrogen trifluoride (NF₃). It also covers disclosure requirements on how the undertaking addresses its GHG emissions as well as the associated transition risks.
5. Climate change adaptation relates to the undertaking's process of adjustment to actual and expected climate change. This [draft] Standard covers disclosure requirements regarding climate-related hazards that can lead to physical climate risks for the undertaking and its adaptation solutions to reduce these risks. It also covers transition risks arising from the needed adaptation to climate-related hazards.
6. The requirements related to Energy cover all types of energy production and consumption.

Interactions with other ESRS

7. Ozone-depleting substances (ODS), nitrogen oxides (NO_x) and sulphur oxides (SO_x), among other air emissions, are connected to climate change but are covered under the reporting requirements on Pollution (ESRS E2). Impacts on people that may arise from the transition to a climate-neutral economy are covered under the ESRS S1-S4.
8. The content of this [draft] Standard consists of Disclosure Requirements on
 - (a) General requirements, governance, strategy and management of impacts, risks and opportunities;
 - (b) Implementation- management of impacts, risks and opportunities; and
 - (c) Metrics and targets
9. This [draft] Standard should be read in conjunction with ESRS 1 *General Requirements* and ESRS 2 *General Disclosures*.
10. This [draft] Standard covers sector-agnostic disclosure requirements. Sector-specific disclosure requirements are developed separately and in accordance with the classification following ESRS SEC 1 Sector classification.

Disclosure Requirements

Section 1: General requirements, governance, strategy, and materiality assessment

11. The requirements of this section should be read in conjunction with and reported alongside the disclosures required by ESRS 2 on Governance (GOV), Strategy (SBM) and Management of impacts, risks and opportunities (IRO).

Disclosure requirement related to GOV-3 On integration of climate change strategies and performance in incentive schemes

12. The undertaking shall disclose whether the performance of members of the administrative, management and supervisory bodies and senior executive management has been assessed against the GHG emission reduction targets reported under Disclosure Requirement E1-4.

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

13. **The undertaking shall disclose its transition plan for climate change mitigation.**
14. The objective of this Disclosure Requirement is to allow an understanding of the undertaking's past, current, and future mitigation efforts to ensure that its business model and strategy are compatible with the transition to a sustainable economy, and with the limiting of global warming to 1.5 °C in line with the Paris Agreement and with the objective of achieving climate neutrality by 2050 and, where relevant, the undertaking's exposure to coal, oil and gas-related activities.
15. The information required by Paragraph 13 shall include:
 - (a) by reference to GHG emission reduction targets (as required by Disclosure Requirement E1-4), an explanation of how the undertaking's targets are compatible with the limiting of global warming to 1.5°C in line with the Paris Agreement;
 - (b) by reference to GHG emission reduction targets (as required by Disclosure Requirement E1-4) and the climate change mitigation action plan (as required by Disclosure Requirement E1-3), an explanation of the decarbonisation levers

identified, and key actions planned, including changes in the undertaking's product and service portfolio and its adoption of new technologies;

- (c) by reference to the climate change mitigation action plan (as required by Disclosure Requirement E1-3), an explanation of the undertaking's investments and funding supporting the implementation of the transition plan;
- (d) a qualitative assessment of the potential locked-in GHG emissions from the undertaking's key assets and products. This shall include an explanation of if and how these emissions may jeopardise the achievement of the undertaking's GHG emission reduction targets and drive transition risk, and if applicable, an explanation of the undertaking's plans to manage its GHG-intensive and energy-intensive assets and products;
- (e) an explanation of the undertaking's objective for aligning its economic activities (revenues) with the Taxonomy Regulation (EU) 2020/852 including any delegated regulations related to climate change mitigation and adaptation and its plans for future Taxonomy alignment (revenues, CapEx and CapEx plans);
- (f) a disclosure on whether¹ or not the undertaking is excluded from the EU Paris-aligned Benchmarks;
- (g) an explanation of how the transition plan is embedded in and aligned with the undertaking's overall business strategy and financial planning and whether it is approved by its administrative, management and supervisory bodies; and
- (h) an explanation of the undertaking's progress in implementing the transition plan.

16. In case the undertaking does not have a transition plan in place, it shall indicate whether and, if so, when it will adopt a transition plan.

Disclosure Requirement related to SBM 3 On resilience of strategy and business model

17. The undertaking shall describe the resilience of its strategy and business model(s) in relation to climate change. This description shall include:

- (a) the scope of the resilience analysis;
- (b) how the resilience analysis has been conducted, including the use of climate scenario analysis as referenced in the Disclosure Requirement related to IRO-1 Paragraph 19 and related AR 13 and 14; and
- (c) the results of the resilience analysis including the results from the use of scenario analysis.

Disclosure requirement related to IRO-1 On description of processes to identify and assess material climate-related impacts, risks and opportunities

18. The undertaking shall describe the process to identify and assess climate-related impacts, risks and opportunities. This description shall include:

- (a) impacts on climate change, in particular, the undertaking's GHG emissions (as required by Disclosure Requirement E1-6);

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

- (b) climate-related physical risks in own operations and along the value chain, in particular:
 - (i) the identification of climate-related hazards, considering at least high emission climate scenarios; and
 - (ii) the assessment of how its assets and business activities may be exposed and are sensitive to these climate-related hazards, creating gross physical risks for the undertaking.
 - (c) climate-related transition risks and opportunities in own operations and along the value chain, in particular:
 - (i) the identification of climate-related transition events, considering at least a climate scenario in line with limiting global warming to 1.5°C with no or limited overshoot; and
 - (ii) the assessment of how its assets and business activities may be exposed to these climate-related transition events, creating gross transition risks or opportunities for the undertaking.
19. When disclosing the information required under Paragraphs 18 (b) and (c), the undertaking shall explain how it has used climate-related scenario analysis to inform the identification and assessment of physical and transition risks and opportunities over the short-, medium- and long-term.

Section 2: Implementation-Management of impacts, risks and opportunities

Disclosure Requirement E1-2 – Policies related to climate change mitigation and adaptation

20. **The undertaking shall disclose the policies it has implemented to manage its material impacts, risks and opportunities related to climate change mitigation and adaptation.**
21. The objective of this Disclosure Requirement is to allow an understanding of the extent to which the undertaking has policies that address the identification, assessment, management and/or remediation of its material climate change mitigation and adaptation impacts, risks and opportunities.
22. The disclosure required by Paragraph 20 shall contain the summarized information on the policies implemented by the undertaking to manage its material impacts, risks and opportunities related to climate change mitigation and adaptation (as required by ESRS 2 Disclosure Principle 1-1 On policies adopted to manage material sustainability matters).
23. The undertaking shall indicate whether and how its policies address the following areas:
- (a) Climate change mitigation
 - (b) Climate change adaptation
 - (c) Energy efficiency
 - (d) Renewable energy deployment
 - (e) Other

Disclosure Requirement E1-3 – Action plans and resources in relation to climate change policies and targets

24. **The undertaking shall disclose its climate change mitigation and adaptation action plans and the resources allocated for their implementation.**
25. The objective of this Disclosure Requirement is to provide an understanding of the key actions taken and planned to achieve climate-related policy objectives and targets.
26. The description of the action plans and resources related to climate change mitigation and adaptation shall follow the principles stated in ESRS 2 Disclosure Principle 1-3 Actions plans and resources in relation to policies and targets.
27. In addition to ESRS 2 Disclosure Principle 1-3, the undertaking shall:
- (a) when listing key actions taken in the reporting year and planned for the future, present the climate change mitigation actions by decarbonisation lever including the nature-based solutions;
 - (b) when describing the outcome of the actions for climate change mitigation, include the achieved and expected GHG emission reductions; and
 - (c) relate significant monetary amounts of CapEx and OpEx required to implement the action plan to:
 - (i) the relevant line items or notes in the financial statements;
 - (ii) the key performance indicators required under article 8 of Taxonomy Regulation (EU) 2020/852; and
 - (iii) the CapEx plan required by Commission delegated regulation (EU) 2021/2178.

Section 3: Metrics and targets

Disclosure Requirement E1-4 –Targets related to climate change mitigation and adaptation

28. **The undertaking shall disclose its climate-related targets.**
29. The objective of this Disclosure Requirement is to allow an understanding of the targets the undertaking has set to support its climate change mitigation and adaptation policies and address its material climate-related impacts, risks and opportunities.
30. The disclosure of the targets required in Paragraph 28 shall contain the information required in ESRS 2 Disclosure Principle 1-2 On targets, progress and tracking effectiveness.
31. For the disclosure required by Paragraph 28, the undertaking shall disclose whether and how it has set GHG emissions reduction targets and/or any other targets to manage material climate-related impacts, risks and opportunities, for example, renewable energy deployment, energy efficiency, climate change adaptation, and physical or transition risk mitigation.
32. For the disclosure of GHG emission reduction targets², the following requirements shall apply in addition to ESRS 2 Disclosure Principle 1-2:

² This information supports the information needs of financial market participants subject to Regulation (EU) 2019/2088 as reflecting an additional principal adverse impact as set out by indicator #4 in Table 2 of Annex 1 of the related Delegated Regulation with regard to disclosure rules on sustainable investments.

- (a) GHG emission reduction targets shall be disclosed in absolute value (either in tons of CO₂ equivalent or as a percentage of the emissions of a base year) and, if deemed meaningful, in intensity value.
- (b) GHG emission reduction targets shall be disclosed for Scope 1, 2, and 3 GHG emissions. The undertaking shall explain how the consistency of these targets with the GHG inventory boundaries is ensured (as required by Disclosure Requirement E1-6). The undertaking shall not include GHG removals, carbon credits or avoided emissions as a means of achieving the GHG emission reduction targets.
- (c) The undertaking shall disclose its current base year and baseline value, and from 2030 onwards, update the base year for its GHG emission reduction targets after every five-year period thereafter. The undertaking may disclose the past progress made in meeting its targets before its current base year provided that this information is consistent with the requirements of this [draft] Standard.
- (d) GHG emission reduction targets shall at least include target values for the year 2030 and, if available, for the year 2050. From 2030, target values shall be set after every five-year period thereafter.
- (e) The undertaking shall state whether the GHG emission reduction targets are science-based and compatible with limiting global warming to 1.5°C. The undertaking shall state which guidance or framework has been used to determine these targets including the underlying climate and policy scenarios. As part of the critical assumptions for setting GHG emission reduction targets, the undertaking shall briefly explain how it has considered future developments (e.g., changes in sales volumes, shifts in customer preferences and demand, regulatory factors, and new technologies) and how these will potentially impact both its GHG emissions and emissions reductions.
- (f) The undertaking shall describe the expected decarbonisation levers and their overall quantitative contributions to achieve the GHG emission reduction targets (e.g., energy or material efficiency and consumption reduction, fuel switching, use of renewable energy, phase out or substitution of product and process).

Disclosure Requirement E1-5 – Energy consumption and mix

33. The undertaking shall provide information on its energy consumption and mix.

34. 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.

35. The disclosure required by Paragraph 33 shall include the total energy consumption in MWh related to own operations as follows:

- (a) total energy consumption from non-renewable sources³ for high climate impact⁴ sectors disaggregated by:
 - (i) fuel consumption from coal and coal products;

³ This information supports the information needs of financial market participants subject to Regulation (EU) 2019/2088 as reflecting a mandatory principal adverse impact 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. The breakdown serves as a reference for an additional principal adverse impact as set out by indicator #5 in Table 2 of the same Annex.

⁴ 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).

- (ii) fuel consumption from crude oil and petroleum products;
 - (iii) fuel consumption from natural gas;
 - (iv) fuel consumption from other non-renewable sources;
 - (v) consumption from nuclear products; and
 - (vi) consumption of purchased or acquired electricity, heat, steam, and cooling from non-renewable sources; and
- (b) total energy consumption from renewable sources disaggregated by:
- (i) fuel consumption for renewable sources (including biomass, biogas, non-fossil fuel waste, hydrogen from renewable sources, etc.);
 - (ii) consumption of purchased or acquired electricity, heat, steam, and cooling from renewable sources; and
 - (iii) consumption of self-generated non-fuel renewable energy.

36. In addition, where applicable, the undertaking shall disaggregate and disclose separately its non-renewable energy production and renewable energy production in MWh.⁵

Energy intensity based on net revenue⁶

37. The undertaking shall provide information on the energy intensity (total energy consumption per net revenue) associated with activities in high climate impact sectors.
38. The disclosure on energy intensity required by Paragraph 37 shall only be derived from the total energy consumption and net revenue from activities in high climate impact sectors.
39. The undertaking shall specify the high climate impact sectors that are used to determine the energy intensity required by Paragraph 37.
40. 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 37).

Disclosure Requirement E1-6 – Gross Scopes 1, 2, 3 and Total GHG emissions⁷

41. The undertaking shall disclose its:

- (a) gross Scope 1 GHG emissions.
- (b) gross Scope 2 GHG emissions.
- (c) gross Scope 3 GHG emissions.

⁵ This information supports the information needs of financial market participants subject to Regulation (EU) 2019/2088 as reflecting a mandatory principal adverse impact 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.

⁶ This information supports the information needs of financial market participants subject to Regulation (EU) 2019/2088 as reflecting a mandatory principal adverse impact 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.

⁷ This information supports the information needs of financial market participants subject to Regulation (EU) 2019/2088 as reflecting a mandatory principal adverse impact 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.

- (d) total GHG emissions.

42. The objective of the Disclosure Requirement in Paragraph 41 in respect of:

- (a) gross Scope 1 GHG emissions as required by Paragraph 41 (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 41 (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 41 (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 41 (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.

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

43. When disclosing the information on GHG emissions required under Paragraph 41, the undertaking shall be consistent with the requirements of defining the reporting undertaking and its value chain under ESRS 1 Paragraphs 62 to 66. The undertaking shall explain the accounting for GHG emissions from its associates, joint ventures, unconsolidated subsidiaries and joint arrangements that are not structured through an entity (i.e., these entities and arrangements can be part of the undertaking's 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);
 - (i) 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).
 - (ii) consistent with ESRS 1 Paragraph 66, 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.
- (b) If the undertaking has operational control of 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.

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.

44. 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).
45. The disclosure on gross Scope 1 GHG emissions required by Paragraph 41 (a) shall include:
 - (a) the gross Scope 1 GHG emissions in metric tons of CO₂eq; and
 - (b) the percentage of Scope 1 GHG emissions from regulated emission trading schemes.
46. The disclosure on gross Scope 2 GHG emissions required by Paragraph 41 (b) shall include:
 - (a) the gross location-based Scope 2 GHG emissions in metric tons of CO₂eq; and
 - (b) the gross market-based Scope 2 GHG emissions in metric tons of CO₂eq.
47. For Scope 1 and Scope 2 emissions disclosed as required by Paragraphs 41 (a) and (b), the undertaking shall disaggregate the information, disclosing emissions separately from:
 - (a) The consolidated accounting group entities (i.e., the parent and subsidiaries for which it has financial control) that are subject to full consolidation in the group financial statements; and
 - (b) Associates, joint ventures, unconsolidated subsidiaries, and joint arrangements that are not structured through an entity (i.e., jointly-controlled operations and assets) that are not subject to full consolidation in the group financial statements but for which the undertaking has operational control (i.e., the ability to control the operational activities and relationships).
48. The disclosure of gross Scope 3 GHG emissions required by Paragraph 41 (c) shall include GHG emissions in metric tons of CO₂eq from each significant Scope 3 category.
49. The disclosure of total GHG emissions required by Paragraph 41 (d) shall be the sum of Scope 1, 2 and 3 GHG emissions required by Paragraphs 41 (a) to (c). The total GHG emissions shall be disclosed with a disaggregation that makes a distinction of:
 - (a) the total GHG emissions derived from the underlying Scope 2 GHG emissions being measured using the location-based method; and
 - (b) the total GHG emissions derived from the underlying Scope 2 GHG emissions being measured using the market-based method.

GHG Intensity based on net revenue⁸

50. The undertaking shall disclose its GHG emissions intensity (total GHG emissions per net revenue).
51. The disclosure on GHG intensity required by Paragraph 50 shall provide the total GHG emissions in metric tons of CO₂eq (required by Paragraph 41 (d)) per net revenue.
52. 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 50).

Disclosure Requirement E1-7 – GHG removals and GHG mitigation projects financed through carbon credits

53. The undertaking shall disclose:

- (a) GHG removals and storage from its own operations and its upstream and downstream value chain it may have developed in metric tons of CO₂eq.
- (b) the amount of GHG emission reductions or removals from climate change mitigation projects outside its value chain it has financed through any purchase of carbon credits.

54. The objective of this Disclosure Requirement in respect of:

- (a) GHG removals and storage in its own operations and the value chain as required by Paragraph 53 (a) is to provide transparency and comparable information on the undertaking's actions to permanently remove or actively support the removal of GHG from the atmosphere, potentially for achieving net-zero targets (as stated in Paragraph 57).
- (b) GHG mitigation projects financed through carbon credits outside the undertaking's value chain as required by Paragraph 53 (b) is to provide an understanding of the extent and quality of carbon credits the undertaking has purchased from the voluntary market and cancelled in the reporting period, potentially for supporting its GHG neutrality claims (as stated in Paragraph 58).

55. The disclosure on GHG removals and storage required by Paragraph 53 (a) shall include, if applicable:

- (a) the total amount of GHG removals and storage in metric tons of CO₂eq disaggregated and separately disclosed for the amount related to the undertaking's own operations and its value chain, and broken down by removal activity; and
- (b) the calculation assumptions, methodologies and frameworks applied by the undertaking.

56. The disclosure on carbon credits required by Paragraph 53 (b) shall include, if applicable:

- (a) the total amount of carbon credits outside the undertaking's value chain in metric tons of CO₂eq that are verified against recognised national or international quality standards and cancelled in the reporting period; and

⁸ This information supports the information needs of financial market participants subject to Regulation (EU) 2019/2088 as reflecting a mandatory principal adverse impact 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.

- (b) the total amount of carbon credits outside the undertaking's value chain in metric tons of CO₂eq planned to be cancelled in the future based on existing contractual agreements.
57. In the case where the undertaking discloses a net-zero target in addition to the gross GHG emission reduction targets (as required by Disclosure Requirements E1-4, Paragraph 32), it shall explain the scope, methodologies and frameworks applied and how the residual GHG emissions (after approximately 90-95% of GHG emission reduction) are intended to be neutralised by GHG removals in its own operations and value chain.
58. In addition to reporting on its gross GHG emission reduction targets as required in DR E1-4 and possibly on its net zero targets in line with Paragraph 57, the undertaking may have made public claims of GHG neutrality that involve the use of carbon credits by reference to the information disclosed under Paragraph 53 (b). In such a case, the undertaking shall explain the credibility and integrity of the carbon credits used, and whether and how its claims of GHG neutrality neither impede nor reduce the achievement of its GHG emission reduction targets.

Disclosure Requirement E1-8 – Internal carbon pricing

59. The undertaking shall disclose whether it applies internal carbon pricing schemes, and if so, how these support its decision making and incentivise the implementation of climate-related policies and targets.
60. The information required in paragraph 59 shall include:
- (a) the type of internal carbon pricing scheme, for example, the shadow prices applied for CapEX or research and development (R&D) investment decision making, internal carbon fees or internal carbon funds;
 - (b) the specific scope of application of the carbon pricing schemes (activities, geographies, entities, etc.);
 - (c) the carbon prices applied according to the type of scheme and critical assumptions made to determine the prices, including the source of the applied carbon prices and why these are deemed relevant for their chosen application. The undertaking may disclose the calculation methodology of the carbon prices including the extent to which these have been set using scientific guidance and how their future development is related to science-based carbon pricing trajectories; and
 - (d) the current year approximate gross GHG emission volumes by Scopes 1, 2 and 3 in metric tons of CO₂eq covered by these schemes, as well as their share of the undertaking's overall GHG emissions for each respective Scope.

Disclosure Requirement E1-9 – Potential financial effects from material physical risks, material transition risks and climate-related opportunities

61. **The undertaking shall disclose its,**
- (a) potential financial effects from material physical risks.
 - (b) potential financial effects from material transition risks.
 - (c) potential to pursue material climate-related opportunities.
62. The objective of this Disclosure Requirement related to:
- (a) potential financial effects from material physical and transition risks is to provide an understanding of how these risks may affect the undertaking's financial performance, position and cash flows over the short-, medium-, and long-term. Potential financial effects from these risks include financial effects that do not meet

the recognition criteria for inclusion in the line items and notes to the financial statements. The results of scenario analysis used to conduct resilience analysis as required under Paragraphs AR 11 to 14 should inform the assessment of potential financial effects from material physical and transition risks.

- (b) potential to pursue material climate-related opportunities is 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.

The information required by this disclosure requirement on potential financial effects differs from and is in addition to the information on the current/past financial effects reflected in the financial statements required under ESRS 2 SBM3.

63. The disclosure of potential financial effects from material physical risk required by Paragraph 61 (a) shall include:

- (a) the monetary amount and proportion (percentage) of assets at material physical risk over the short-, medium-, and long-term; with the monetary amounts of these assets disaggregated by acute and chronic physical risk⁹;
- (b) the proportion of assets at material physical risk addressed by the climate change adaptation action plan;
- (c) the location of significant assets at material physical risk¹⁰; 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.

64. The disclosure of potential financial effects from material transition risk required by Paragraph 61 (b) shall include:

- (a) the monetary amount and proportion (percentage) of assets at material transition risk over the short-, medium- and long-term;
- (b) the proportion of assets at material transition risk addressed by the climate change mitigation action plan;
- (c) a breakdown of the carrying value of its real estate assets by energy-efficiency classes ¹¹;
- (d) the liabilities (monetary amounts) that may have to be recognised in financial statements over the short-, medium- and long-term; 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 including, where relevant, net revenue from the undertaking's customers operating in coal, oil and gas-related activities.

⁹ This disclosure requirement is consistent with the requirements of included in EBA Pillar 3 ITS- [Template 5 exposures subjects to physical risk](#)

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

[e collateral](#)

65. 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 63).
 - (b) significant amounts of the assets, liabilities, and net revenue at material transition risk (as required by Paragraph 64).
66. For the disclosure of potential financial effects from climate-related opportunities required by Paragraph 61 (c), the undertaking shall consider:
- (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.
67. A quantification of the financial effects that arise from opportunities is not required if such a disclosure does not meet the qualitative characteristics of useful information included under ESRS 1 Appendix C.

Appendix A: Defined terms

This appendix is an integral part of the [draft] ESRS.

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 an undertaking's value chain (sometimes referred to as offsets).
Carbon dioxide (CO₂) 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. (IPCC, "Special Report: Global warming of 1.5 °C", Annex I: Glossary, 2018) CO ₂ eq 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. (GHG Protocol, "Corporate Value Chain (Scope 3) Standard", Glossary, 2011)
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 an 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 an undertaking operates. (Adapted from TCFD, "Guidance on Metrics, Targets and Transition Plans", 2021)
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. (adapted from Commission Communication C(2019) 4490 final)
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. (Adapted from ISSB, "[Draft] IFRS S2 Climate-related Disclosures", 2022)
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. (Adapted from Commission Communication C(2019) 4490 final).
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 action plans
Direct GHG emissions (Scope 1)	GHG emissions from sources owned or controlled by the undertaking. (From GHG Protocol Corporate Standard, 2004)
Emission reduction	<p>Emissions reduction: decrease in Scope 1, 2, 3 or total GHG emissions at the end of the reporting period, relative to baseline emissions;</p> <p>Emission reductions may result from, among others, energy efficiency, electrification, suppliers' decarbonisation, electricity mix decarbonisation, sustainable products development or changes in reporting boundaries or activities (e.g. outsourcing, reduced capacities.), provided they are achieved within the undertaking's own operation and value chain; removals and avoided emissions are not counted as emission reductions.</p>
GHG removal and storage	<p>(Anthropogenic) Removals refer to the withdrawal of GHGs from the atmosphere as a result of deliberate human activities. These include enhancing biological sinks of CO₂ and using chemical engineering to achieve long-term removal and storage. Carbon capture and storage (CCS) from industrial and energy-related sources, which alone does not remove CO₂ in the atmosphere, can reduce atmospheric CO₂ if it is combined with bioenergy production (BECCS). (IPCC, "Special Report: Global warming of 1.5 °C", Annex I: Glossary, 2018)</p> <p>Removals can be subject to reversals, which are any movement of stored GHG out of the intended storage that re-enters the surface and atmosphere. For example, if a forest that was grown to remove a specific amount of CO₂ is subject to a wildfire, the emissions captured in the trees are reversed.</p>
Global warming potential (GWP)	Global warming potential (GWP) is a factor describing the radiative forcing impact (degree of harm to the atmosphere) of one unit of a given GHG relative to one unit of CO ₂ . (GHG Protocol, "Corporate Value Chain (Scope 3) Standard", Glossary, 2011)
Greenhouse Gases (GHG)	Greenhouse Gases (GHG) are those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and emit radiation at specific wavelengths within the spectrum of terrestrial radiation emitted by the Earth's surface, the atmosphere itself and by clouds. This property causes the greenhouse effect. Water vapour (H ₂ O), carbon dioxide (CO ₂), nitrous oxide (N ₂ O), methane (CH ₄) and ozone (O ₃) are the primary GHGs in the Earth's atmosphere. Moreover, there are a number of entirely human-made GHGs in the atmosphere, such as the halocarbons and other chlorine- and bromine-containing substances, dealt with under the Montreal Protocol. Besides CO ₂ , N ₂ O and CH ₄ , the Kyoto Protocol deals with the GHGs sulphur hexafluoride (SF ₆), hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs). (IPCC, "Special Report: Global warming of 1.5 °C", Annex I: Glossary, 2018)

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. (Adapted from GHG Protocol, “Scope 2 Guidance”, Glossary, 2015)
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. (GHG Protocol, “A corporate accounting and reporting standard”, Glossary, 2004); 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. (Adapted from ISSB, “[Draft] IFRS S2 Climate-related Disclosures”, 2022)
Internal carbon pricing scheme	An organizational arrangement that allows an 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) (adapted from ISSB, “[Draft] IFRS S2 Climate-related Disclosures”, 2022).
Land use change uptakes and emissions	Carbon uptakes and emissions (CO ₂ , CO and CH ₄) 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 CO ₂ emissions are included and modelled under this sub-category (including connected soil emissions, and products derived from native forests and residues), while their CO ₂ 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 an 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 (cf. United Nations Environment Assembly Resolution UNEP/EA.5/Res.5)
Net-zero target	Setting a net-zero target at the level of an 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 . (Adapted from Science Based Target initiative, “SBTi Corporate Net-Zero Standard”, 2021)
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 an 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. (Based on GHG Protocol, “Scope 2 Guidance”, 2015)
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. (IPCC, “Special Report: Global warming of 1.5 °C”, Annex I: Glossary, 2018)
Scenario analysis	Scenario analysis is a process for identifying and assessing a potential range of outcomes of future events under conditions of uncertainty. (TCFD, “Guidance on Metrics, Targets and Transition Plans”, 2021)

Scope 3 category	<p>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)) ;</p> <p>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.</p>
Transition plan for climate change mitigation	<p>An aspect of an 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.</p>

Appendix B: Application Requirements

The application requirements in this appendix shall be applied in conjunction with the [draft] disclosure requirements defined in Paragraphs 1 to 67.

This appendix describes how to apply the disclosure requirements, has the same authority as the disclosure requirements and is an integral part of the proposed [draft] ESRS E1 *Climate change*.

Section 1: General requirements, governance, strategy, and materiality assessment

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

AR 1. A transition plan relates to an undertaking's efforts in climate change mitigation. When disclosing its transition plan, the undertaking is expected to provide a high-level explanation of how it will adjust its strategy and business model to ensure compatibility with the transition to a sustainable economy and with the limiting of global warming to 1.5°C in line with the Paris Agreement (or an updated international agreement on climate change) and the objective of achieving climate neutrality by 2050 with no or limited overshoot as established in Regulation (EU) 2021/1119 (European Climate Law), and where applicable, its exposure to coal, and oil and gas-related activities.

AR 2. Sectoral pathways have not yet been defined by the public policies for all sectors. Hence, the disclosure under Paragraph 15 (a) on the compatibility of the transition plan with the objective of limiting global warming to 1.5°C should be understood as the disclosure of the undertaking's GHG emissions reduction target. The disclosure under Paragraph 15 (a) shall be benchmarked in relation to a pathway to 1.5°C. This benchmark should be based on either the sectoral decarbonisation methodology if available for the undertaking's sector or the absolute contraction methodology bearing in mind its limitations (i.e., it is a simple translation of emission reduction objectives from the State to Corporate level).

AR 3. When disclosing the information required under Paragraph 15 (d), the undertaking may consider:

- (a) the cumulative locked-in GHG emissions associated with key assets from the reporting year until 2030 and 2050 in tCO₂eq. This will be assessed as the sum of the estimated Scopes 1 and 2 GHG emissions over the operating lifetime of the active and firmly planned key assets. Key assets are those owned or controlled by the undertaking, and they consist of existing or planned assets (such as stationary or mobile installations, facilities, and equipment) that are sources of either significant direct or energy-indirect GHG emissions. Firmly planned key assets are those that the undertaking will most likely deploy within the next five years.
- (b) the cumulative locked-in GHG emissions associated with the direct use-phase GHG emissions of sold products in tCO₂eq, assessed as the sales volume of products in the reporting year multiplied by the sum of estimated direct use-phase GHG emissions over their expected lifetime. This requirement only applies if the undertaking has identified the Scope 3 category "use of sold products" as significant under Disclosure Requirement E1-6 Paragraphs 48 and AR 41.
- (c) an explanation of the plans to manage, i.e., to transform, decommission or phase out its GHG-intensive and energy-intensive assets and products.

AR 4. When disclosing the information required under Paragraph 15 (e), the undertaking shall explain how the alignment of its economic activities with the provisions of the Delegated Act (EU) 2021/2139 (evolution of green revenue) supports its transition to a sustainable economy. In doing so, the undertaking shall take account of the information required to be disclosed under Article. 8 of the Taxonomy Regulation (in particular, the green revenue, CapEx and CapEx plans).

AR 5. If applicable, the explanation referred to in Paragraphs 15 (e) and AR 4 shall take into consideration the amount¹² of CapEx in the current reporting year that is related to coal, oil and gas-related economic activities. The undertaking shall also disclose significant CapEx amounts invested during the reporting year related to coal, oil and gas-related economic activities.

AR 6. When disclosing the information required under Paragraph 15 (f), the undertaking shall state whether or not it is excluded from the EU Paris-aligned Benchmarks in accordance with the exclusion criteria stated in Articles 12.1 (d) to (g)¹³ and 12.2 of the Climate Benchmark Standards Regulation¹⁴.

Climate-related specific application guidance on ESRS 2 Disclosure Requirement SBM 1 on the resilience of the strategy and business model

AR 7. When disclosing the information on the scope of the resilience analysis as required under Paragraph 17 (a), the undertaking shall explain which part of its own operations and value chain as well as which material physical and transition risks may have been excluded from the analysis.

AR 8. When disclosing the information on how the resilience analysis has been conducted as required under Paragraph 17 (b), the undertaking shall explain:

- (a) the critical assumptions about how the transition to a lower-carbon and resilient economy will affect its surrounding macroeconomic trends, energy consumption and mix, and technology deployment assumptions;
- (b) the time horizons applied and their alignment with the climate and business scenarios considered for determining material physical and transition risks

¹² The CapEx amounts considered are related to the following NACE codes:

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

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

¹³ Article 12.1 of the Climate Benchmark Standards Regulation states “that Administrators of EU Paris-aligned Benchmarks shall exclude the following companies:

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

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

¹⁴ This disclosure requirement is consistent with the requirements in EBA Pillar 3 ITS- [template 1 climate change transition risk](#)

(Paragraphs AR 11 to 12) and setting GHG emissions reduction targets (reported under Disclosure Requirement E1-4); and

- (c) how the estimated potential financial effects from material physical and transition risks (as required by Disclosure Requirement E1-9) as well as the mitigation actions and resources (disclosed under Disclosure Requirement E1-3) were considered.

AR 9. When disclosing the information on the results of the resilience analysis as required under Paragraph 17 (c), the undertaking shall explain:

- (a) the areas of uncertainties of the resilience analysis and to what extent the assets and business activities at risk are considered within the definition of the undertaking's strategy, investment decisions, and current and planned mitigation actions;
- (b) the ability of the undertaking to adapt its business model in the future, for example, in securing ongoing access to finance at an affordable cost of capital, in the redeployment, upgrading or decommissioning of existing assets, shifting its products and services portfolio, and reskilling its workforce.

Climate-related specific application guidance on ESRS 2 Disclosure Requirements IRO 1 on management of impacts, risks and opportunities

AR 10. When disclosing the information on the process to identify and assess climate impacts as required under Paragraph 18 (a), the undertaking shall explain how it has:

- (a) screened its activities and plans in order to identify actual and potential future GHG emission sources and, if applicable, drivers for other climate-related impacts (e.g., emissions of black carbon or tropospheric ozone or land use changes) in own operations and along the value chain; and
- (b) assessed the actual and potential impacts on climate change (i.e., its total GHG emissions) as material in line with the CSRD and SFDR requirements.

Note: The undertaking may link the information disclosed under Paragraphs 18 (a) and AR 10 to the information disclosed under the following disclosure requirements: Disclosure Requirement E1-1 (Transition plan for climate change mitigation, Paragraph 15 (d) on locked-in GHG emissions); Disclosure Requirement E1-4 (Targets related to climate change mitigation and adaptation); and Disclosure Requirement E1-6 (Gross Scopes 1, 2 and 3 and Total GHG emissions).

AR 11. When disclosing the information on the process to identify and assess physical risks as required under Paragraph 18 (b), the undertaking shall explain whether and how:

- (a) it has identified climate-related hazards (see table below) over the short, medium- and long-term and screened whether its assets and business activities may be exposed to these hazards;
- (b) it has defined short-, medium- and long-term time horizons and how these definitions are linked to the expected lifetime of its assets, strategic planning horizons and capital allocation plans;
- (c) it has assessed the extent to which its assets and business activities may be exposed and are sensitive to the identified climate-related hazards, taking into consideration the likelihood, magnitude and duration of the hazards as well as the geospatial coordinates (such as Nomenclature of Territorial Units of Statistics-NUTS for the EU territory) specific to the undertaking's locations and supply chains; and
- (d) the identification of climate-related hazards and the assessment of exposure and sensitivity are informed by high emissions climate scenarios, for example, based

on IPCC SSP5-8.5 or relevant regional climate projections based on these emission scenarios. For general requirements regarding climate-related scenario analysis see Paragraphs 18, 19, AR 13 to 14.

Classification of climate-related hazards (Source: Commission delegated regulation (EU) 2021/2139)				
	Temperature-related	Wind-related	Water-related	Solid mass-related
Chronic	Changing temperature (air, freshwater, marine water)	Changing wind patterns	Changing precipitation patterns and types (rain, hail, snow/ice)	Coastal erosion
	Heat stress		Precipitation or hydrological variability	Soil degradation
	Temperature variability		Ocean acidification	Soil erosion
	Permafrost thawing		Saline intrusion	Solifluction
			Sea level rise	
			Water stress	
Acute	Heat wave	Cyclones, hurricanes, typhoons	Drought	Avalanche
	Cold wave/frost	Storms (including blizzards, dust, and sandstorms)	Heavy precipitation (rain, hail, snow/ice)	Landslide
	Wildfire	Tornado	Flood (coastal, fluvial, pluvial, ground water)	Subsidence
			Glacial lake outburst	

AR 12. When disclosing the information on the process to identify transition risks and opportunities as required under Paragraph 18 (c), the undertaking shall explain whether and how it has:

- (a) identified transition events (see the table with examples below) over the short-, medium- and long-term and screened whether its assets and business activities may be exposed to these events. In case of transition risks and opportunities, what is considered long-term may cover more than 10 years and may be aligned with climate-related public policy goals;
- (b) assessed the extent to which its assets and business activities may be exposed and are sensitive to the identified transition events, taking into consideration the likelihood, magnitude and duration of the transition events;
- (c) informed the identification of transition events and the assessment of exposure by climate-related scenario analysis consistent with the Paris Agreement and limiting climate change to 1.5°C, for example, based on scenarios of the International Energy Agency (Net zero Emissions by 2050, Sustainable Development Scenario, etc). For the general requirements related to climate-related scenario analysis see Paragraphs 18, 19, AR 13 to 14; and
- (d) identified assets and business activities that are incompatible with or need significant efforts to be compatible with a transition to a climate-neutral economy (for example, due to significant locked-in GHG emissions or incompatibility with the requirements for Taxonomy-alignment under Commission Delegated Regulation (EU) 2021/2139).

Examples of climate-related transition events (examples based on TCFD classification)			
Policy and legal	Technology	Market	Reputation
Increased pricing of GHG emissions	Substitution of existing products and services with lower emissions options	Changing customer behaviour	Shifts in consumer preferences
Enhanced emissions-reporting obligations	Unsuccessful investment in new technologies	Uncertainty in market signals	Stigmatization of sector
Mandates on and regulation of existing products and services	Costs of transition to lower emissions technology	Increased cost of raw materials	Increased stakeholder concern
Mandates on and regulation of existing production processes			Negative stakeholder feedback
Exposure to litigation			

Climate-related scenario analysis

AR 13. When disclosing the information required under Paragraphs 17, 18, 19, and AR 11 to 12, the undertaking shall explain how it has used climate-related scenario analysis to inform the identification and assessment of physical and transition risks and opportunities over the short-, medium- and long-term, including:

- (a) which scenarios were used, their sources and alignment with state-of-the-art science;
- (b) narratives, time horizons, and endpoints used with a discussion of why it believes the range of scenarios used covers its plausible risks and uncertainties;
- (c) the key forces and drivers taken into consideration in each scenario and why these are relevant to the undertaking, for example, policy assumptions, macroeconomic trends, energy usage and mix, and technology assumptions; and
- (d) key inputs and constraints of the scenarios, including their level of detail (e.g., whether the analysis of physical climate-related risks is based on geospatial coordinates specific to the undertaking's locations or national- or regional-level broad data).

Note: When conducting scenario analysis, the undertaking may consider the following guidance: TCFD Technical Supplement on "The Use of Scenario Analysis in Disclosure of Climate-Related Risks and Opportunities" (2017); TCFD "Guidance on Scenario Analysis for Non-Financial Companies" (2020); ISO 14091:2021 "Adaptation to climate change — Guidelines on vulnerability, impacts and risk assessment"; any other recognised industry standards; and EU, national, regional and local regulations.

AR 14. The undertaking shall briefly explain how the climate scenarios used are compatible with the critical climate-related assumptions made in the financial statements.

Section 2: Implementation- Management of impacts, risks and opportunities

Disclosure Requirement E1-2 – Policies related to climate change mitigation and adaptation

AR 15. Policies related to either climate change mitigation or climate adaptation may be disclosed separately as their objectives, people involved, actions and resources needed to implement them are different.

AR 16. Policies related to climate change mitigation address the management of the undertaking's GHG emissions, GHG removals and transition risks over different time horizons, in its own operations and/or in the value chain. The requirement under Paragraph 16 may relate to stand-alone climate change mitigation policies as well as relevant policies on other matters that indirectly support climate change mitigation including training policies, procurement or supply chain policies, investment policies or product development policies.

AR 17. Policies related to climate change adaptation address the management of the undertaking's physical climate risks and climate change adaptation-related transition risks. The requirement under Paragraphs 20 and 23 may relate to stand-alone climate change adaptation policies as well as relevant policies on other matters that indirectly support climate change adaptation including training policies, and emergency or health and safety policies.

Disclosure Requirements E1-3 – Action plans and resources in relation to climate change mitigation and adaptation policies and targets

AR 18. When disclosing the information on action plans as required under Paragraphs 27 a) and b), the undertaking may:

- (a) disclose its key actions taken and/or plans to implement climate change mitigation and adaptation policies in its single or separate action plan(s);
- (b) aggregate types of mitigation actions (decarbonisation levers) such as energy efficiency, electrification, fuel switching, use of renewable energy, products change, and supply-chain decarbonisation that fit the undertakings' specific action plans;
- (c) present the list of key mitigation actions alongside the measurable targets (as required by Disclosure Requirement E1-4) with disaggregation by decarbonisation levers; and
- (d) present the climate change adaptation actions by type of adaptation solution such as nature-based adaptation, engineering, or technological solutions.

AR 19. When disclosing the information on resources as required under Paragraph 27 c), the undertaking shall only disclose the significant OpEx and CapEx amounts required for the implementation of the action plan as the purpose of this information is to demonstrate the credibility of its action plan rather than to reconcile the disclosed amounts to the financial statements. The disclosed CapEx and OpEx amounts shall be the additions made to both tangible and intangible assets during the current financial year as well as the planned additions for future periods of implementing the action plan. The disclosed amounts shall only be the incremental financial investments directly contributing to the achievement of the undertaking's targets.

AR 20. In line with the requirements of ESRS 2 Disclosure Principle 1-3, the undertaking shall explain if and to what extent its ability to implement the action plan depends on the availability and allocation of resources. Ongoing access to finance at an affordable cost of capital can be critical for the implementation of the undertaking's action plans, which include its adjustments to supply/demand changes or its related acquisitions and significant research and development (R&D) investments.

AR 21. The amounts of OpEx and CapEx required for the implementation of the action plan disclosed under Paragraph 27 (c) shall be consistent with the key performance indicators (proportion of CapEx and OpEx) and the CapEx plan required by Commission delegated regulation (EU) 2021/2178. The undertaking shall explain any potential differences between the significant OpEx and CapEx amounts disclosed under this [draft] Standard and the amounts disclosed under the Taxonomy Regulation (EU) 2020/852 due to, for instance, non-eligible economic activities. The undertaking may structure its action plan by economic activity to accommodate its OpEx and CapEx plan aligned to the Taxonomy Regulation.

Section 3: Metrics and targets

Disclosure Requirement E1-4 – Measurable targets for climate change mitigation and adaptation

AR 22. When disclosing the information required under Paragraph 32 (b), the undertaking shall specify the share of the target related to each respective GHG emission Scope (1, 2 or 3). The undertaking shall state the method used to calculate Scope 2 GHG emissions included in the target (i.e., either the location-based or market-based method). If the boundary of the GHG emission reduction target diverges from that of the GHG emissions reported under Disclosure Requirements E1-6, the undertaking shall disclose the respective percentage of Scope 1, 2, 3 and total GHG emissions covered by the target. For the GHG emission reduction targets of its subsidiaries, the undertaking shall analogously apply these requirements at the level of the subsidiary.

AR 23. When disclosing the information required under Paragraph 32 (c) on base year and baseline value:

- (a) the undertaking shall briefly explain how it has ensured that the baseline value against which the progress towards the target is measured is representative of the activities covered and the influences from external factors (e.g., temperature anomalies in a certain year influencing the amount of energy consumption and related GHG emissions). This can be done by the normalisation of the baseline value, e.g., by using a baseline value that is derived from a three-year average if this increases the representativeness and allows a more faithful representation of the baseline value.
- (b) the baseline value and base year shall not be changed unless significant changes in either the target or reporting boundary occur. In such a case, the undertaking shall explain how the new baseline value affects the new target, its achievement and presentation of progress over time. To foster comparability, when setting new targets, the undertaking shall select a recent base year that does not precede the first reporting year of the new target period by longer than three years. For example, for 2030 as the target year and a target period between 2025 and 2030, the base year shall be selected from the period between 2022 and 2025;
- (c) the undertaking shall update its base year from 2030 and after every five-year period thereafter. This means that before 2030, the base years chosen by undertakings' may be either the currently applied base year for existing targets or the first year of application of the CSRD (2024, 2025 or 2026) and, after 2030, every five years (2030, 2035, etc); and
- (d) when presenting climate-related targets, the undertaking may disclose the progress in meeting these targets made before its current base year. In doing so, the undertaking shall, to the greatest extent possible, ensure that the information on past progress is consistent with the requirements of this [draft] Standard. In the case of methodological differences, for example, regarding target boundaries, the undertaking shall provide a brief explanation for these differences.

AR 24. When disclosing the information required under Paragraphs 32 (d) and (e), the undertaking shall present the information over the target period with reference to a sector-specific, if available, or a cross-sector emission pathway in line with limiting global warming

to 1.5°C. For this purpose, the undertaking shall calculate a 1.5°C aligned reference target value for Scope 1 and 2 (and, if applicable, a separate one for Scope 3) against which its own GHG emission reduction targets or interim targets in the respective Scopes can be compared.

AR 25. The reference target value may be calculated by multiplying the GHG emissions in the base year with either a sector-specific or cross-sector emission reduction factor. These emission reduction factors can be derived from different sources. The undertaking should ensure that the source used is based on an emission reduction pathway compatible with limiting global warming to 1.5°C. The undertaking may derive the reduction factors for its specific sectors and emission Scopes from the following:

- (a) the One Earth Climate Model (OECM) and its report prepared by the University of Technology Sydney for the UN-convened Net Zero Asset Owners Alliance and the European Climate Foundation¹⁵;
- (b) the Science-based Target Initiative (SBTi) using the Sectoral Decarbonisation Approach (SDA) if available, and/or the Absolute Contraction Approach (ACA);

The emission reduction factors are subject to further development. Consequently, undertakings are encouraged to only use updated publicly available information.

	2030	2050
Cross-sector (ACA) reductions pathway based on the year 2020 as the reference year	-42%	-90%

Source: based on Pathways to Net-zero –SBTi Technical Summary (Version 1.0, October 2021)

AR 26. The reference target value is dependent on the base year and baseline emissions of the undertaking's GHG emission reduction target. As a result, the reference target value for undertakings with a recent base year or from higher baseline emissions may be less stringent than it will be for undertakings that already have taken ambitious past actions to reduce GHG emissions. Therefore, undertakings that have in the past achieved GHG emissions reductions in line with either a 1.5°C-aligned cross-sector or sector-specific pathway, may adjust their baseline emissions accordingly to determine the reference target value. Accordingly, if the undertaking is adjusting the baseline emissions to determine the reference target value, it shall not consider GHG emission reductions that precede the year 2020 and it shall provide appropriate evidence of its past achieved GHG emission reduction.

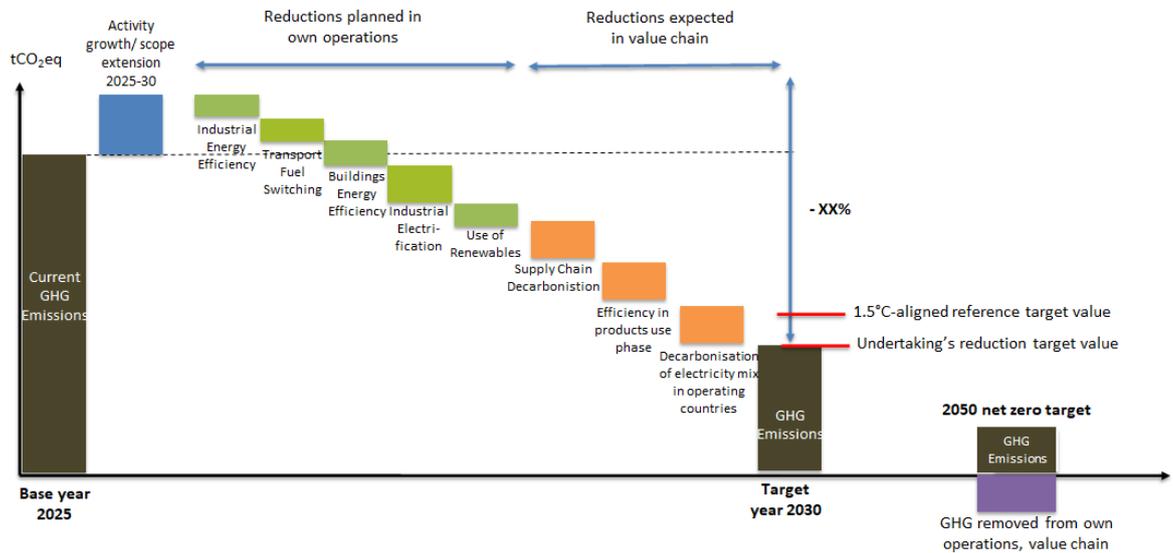
AR 27. When disclosing the information required under Paragraph 32 (f), the undertaking shall explain:

- (a) by reference to its climate change mitigation action plan, the decarbonisation levers and their estimated quantitative contributions to the achievement of its GHG emission reduction targets broken down by each Scope (1, 2 and 3);
- (b) whether it plans to adopt new technologies and the role of these to achieve its GHG emission reduction targets; and

¹⁵ Teske, S., Niklas, S., Nagrath, K., Talwar S., Atherton, A., Guerrero Orbe, J., (2020), Sectoral pathways and Key Performance Indicators: aluminium, chemical, cement, steel, textile & leather industry, power utilities, gas utilities, agriculture, forestry, the aviation and shipping industry, road transport, and the real estate & building industry. Available at: https://www.unepfi.org/wordpress/wp-content/uploads/2022/05/UTS_Limit-global-warming_Sectoral-Pathways-and-Key-KPIs.pdf (pages 19 ff.).

(c) whether and how it has considered a diverse range of climate scenarios, at least including a climate scenario in line with limiting global warming to 1.5°C, to detect relevant environmental-, societal-, technology-, market- and policy-related developments and determine its decarbonisation levers.

AR 28. The undertaking may present its GHG emission reduction targets together with its climate change mitigation action plans (see Paragraph AR 18) as a table or graphical pathway showing developments over time. The following figure and table provide examples combining targets and decarbonisation levers:



	Base year (e.g., 2025)	2030 target	2035 target	...	Up to 2050 target
GHG emissions (ktCO ₂ eq)	100	60	40		
Energy efficiency and consumption reduction	-	-10	-4		
Material efficiency and consumption reduction	-	-5	-		
Fuel switching	-	-2	-		
Electrification	-	-	-10		
Use of renewable energy	-	-10	-3		
Phase out or substitution of product change	-	-8	-		
Phase out or substitution of process change	-	-5	-3		
Other	-	-			

Disclosure Requirement E1-5 – Energy consumption and mix

Calculation guidance

AR 29. When preparing the information on energy consumption required under Paragraph 33, the undertaking shall:

- (a) only report energy consumed from processes owned or controlled by the undertaking applying the same perimeter applied for reporting GHG Scopes 1 and 2 emissions;
- (b) exclude feedstocks and fuels that are not combusted for energy purposes. The undertaking that consumes fuel as feedstocks can disclose information on this consumption separately from the required disclosures;
- (c) ensure all quantitative energy-related information is reported in either Mega-Watt-hours (MWh) in Lower Heating Value or net calorific value. If raw data of energy-related information is only available in:
 - (i) energy units other than MWh, such as Giga-Joules (GJ) or British Thermal Units (Btu);
 - (ii) volume units, such as cubic feet or gallons; or
 - (iii) mass units, such as kilograms (kg) or pounds (lb),

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

- (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 onsite 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 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 or similar instruments like Renewable Energy Certificates in the US and Canada, etc.).

AR 30. The information required under Paragraph 35 a) shall be disaggregated by type of non-renewable source and this shall be done only for high climate impact sectors.

AR 31. The information on Energy consumption and mix may be presented using the following tabular format

Energy consumption and mix	Comparative	Year N
(1) Fuel consumption from coal and coal products (MWh)		
(2) Fuel consumption from crude oil and petroleum products (MWh)		
(3) Fuel consumption from natural gas (MWh)		
(4) Fuel consumption from other non-renewable sources (MWh)		
(5) Consumption from nuclear products (MWh)		
(6) Consumption of purchased or acquired electricity, heat, steam, and cooling from non-renewable sources (MWh)		
(7) Total non-renewable energy consumption (MWh) (calculated as the sum of lines 1 to 6)		
Share of non-renewable sources in total energy consumption (%)		
(8) Fuel consumption for renewable sources (including biomass, biogas, non-fossil fuel waste, renewable hydrogen, etc.) (MWh)		
(9) Consumption of purchased or acquired electricity, heat, steam, and cooling from renewable sources (MWh)		
(10) The consumption of self-generated non-fuel renewable energy (MWh)		
(11) Total renewable energy consumption (MWh) (calculated as the sum of lines 8 to 10)		
Share of renewable sources in total energy consumption (%)		
Total energy consumption (MWh) (calculated as the sum of lines 7 and 11)		

AR 32. The total energy consumption with a distinction between renewable and non-renewable energy consumption may be graphically presented in the sustainability statement showing developments over time (e.g., through a pie or bar chart).

Energy intensity based on net revenue

Calculation guidance

AR 33. When preparing the information on energy intensity required under Paragraph 37, the undertaking shall:

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

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

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

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

(d) calculate the total energy consumption in line with the requirement in Paragraph 35;

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

AR 34. 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 35. 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 E1-6– GHG emissions

Calculation guidance

AR 36. When preparing the information for reporting GHG emissions as required by Paragraph 41, the undertaking shall:

- (a) consider the principles, requirements and guidance provided by the GHG Protocol Corporate Standard (version 2004 or the latest one) and GRI 305 (version 2016 which is directly based on the requirements of the GHG Protocol). The undertaking may consider the requirements stipulated by ISO 14064-1:2018. If the undertaking already applies the GHG accounting methodology of ISO 14064-1: 2018, it shall nevertheless comply with the requirements of this standard (e.g., regarding reporting boundaries and the disclosure of market-based Scope 2 GHG emissions);
- (b) disclose the methodologies and emissions factors used to calculate or measure GHG emissions, and provide a reference or link to any calculation tools used;
- (c) include emissions of CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, and NF₃. Additional GHG may be considered when significant;
- (d) use the most recent Global Warming Potential (GWP) values published by the IPCC based on a 100-year time horizon to calculate CO₂eq emissions of non-CO₂ gases; and
- (e) disclose the methodologies and emissions factors used to calculate or measure GHG emissions, and provide a reference or link to any calculation tools used.

AR 37. The undertaking may disaggregate its Scope 1, 2 and 3 GHG emissions by country, operating segments, economic activity, subsidiary, GHG category (CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, NF₃, and other GHG considered by the undertaking) or source type (stationary combustion, mobile combustion, process emissions and fugitive emissions) as appropriate.

AR 38. When preparing the information on gross Scope 1 GHG emissions required under Paragraph 45 (a), the undertaking shall:

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

AR 39. When preparing the information on the percentage of Scope 1 GHG emissions from regulated emission trading schemes required under Paragraph 45 (b), the undertaking shall:

- (a) consider GHG emissions from the installations it operates that are subject to regulated Emission Trading Schemes (ETS), including the EU-ETS, national ETS and non-EU ETS, if applicable;

- (b) only include emissions of CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, and NF₃;
- (c) ensure the same accounting period for gross Scope 1 GHG emissions and GHG emissions regulated under the ETS; and
- (d) calculate the share by using the following formula:

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

AR 40. When preparing the information on gross Scope 2 GHG emissions required under Paragraph 46, the undertaking shall:

- (a) consider the principles and requirements of the GHG Protocol Scope 2 Guidance (version 2015 or the latest one); it may also consider corresponding requirements for the quantification of indirect GHG emissions from imported energy in ISO 14064-1:2018;
- (b) include purchased or acquired electricity, steam, heat, and cooling consumed by the undertaking;
- (c) avoid double counting of GHG emissions reported under Scope 1 or 3;
- (d) apply the location-based and market-based methods to calculate Scope 2 GHG emissions;

Note: Location-based method quantifies Scope 2 GHG emissions based on average energy generation emission factors for defined locations, including local, subnational, or national boundaries (GHG Protocol, "Scope 2 Guidance", Glossary, 2015);

Note: Market-based method quantifies Scope 2 GHG emissions based on GHG emissions emitted by the generators from which the reporting entity contractually purchases electricity bundled with instruments, or unbundled instruments on their own (GHG Protocol, "Scope 2 Guidance", Glossary, 2015); in this case, the undertaking may disclose the share of market-based scope 2 GHG emissions linked to purchased electricity bundled with instruments such as Guarantee of Origins or Renewable Energy Certificates.

- (e) disclose biogenic emissions of carbon from the combustion or biodegradation of biomass separately from the Scope 2 GHG emissions but include emissions of other types of GHG (in particular N₂O). In case the emission factors applied do not separate the percentage of biomass or biogenic CO₂, the undertaking shall disclose this. In case GHG emissions other than CO₂ (particularly N₂O) are not available for, or excluded from, location-based grid average emissions factors or with the market-based method information, the undertaking shall disclose this;
- (f) exclude any purchased, sold or transferred carbon credits or GHG allowances from the calculation of Scope 2 GHG emissions;
- (g) adhere to the rules as set out in chapter 7.1 of the GHG Protocol Scope 2 Guidance (version 2015 or the latest one) and disclose the required information accordingly;
- (h) disclose carbon uptakes and emissions (CO₂, CO, CH₄) from indirect land use and land use change separately from the Scope 2 GHG emissions, but include emissions of other types of GHG when applicable.

AR 41. When preparing the information on gross Scope 3 GHG emissions required under Paragraph 48, the undertaking shall:

- (a) consider the principles and provisions of the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard (Version 2011 or latest one); and it

may consider the corresponding requirements for the quantification of indirect GHG emissions from ISO 14068:2018;

- (b) if it is a financial institution, consider the GHG Accounting and Reporting Standard for the Financial Industry from the Partnership for Carbon Accounting Financial (PCAF);
- (c) screen its total Scope 3 GHG emissions based on the 15 Scope 3 categories identified by the GHG Protocol Corporate Standard and GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard (Version 2011) using appropriate estimates. Alternatively, it may screen its indirect GHG emissions based on the categories provided by ISO 14064:2018 clause 5.2.4 (excluding indirect GHG emissions from imported energy);
- (d) identify its significant Scope 3 categories based on the magnitude of their estimated GHG emissions and other criteria provided by GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard (Version 2011, p. 63 and 65-68) or ISO 14064-1:2018 Annex H.3.2, such as financial spend, influence, related transition risks and opportunities or stakeholder views;
- (e) calculate or estimate GHG emissions in significant Scope 3 categories using emissions factors recommended by the GHG protocol such as IPCC, ASHRAE Standard 34 / World Resources Institute and The Climate Registry;
- (f) at least update the Scope 3 inventory every three years and in case of major changes (Explanatory note: Scope 3 GHG emissions need to be disclosed every year, but a full update of the underlying inventory is only expected every three years unless major changes occur);
- (g) disclose the percentage of emissions calculated using primary data obtained from suppliers or other value chain partners;
- (h) for each significant Scope 3 GHG emissions category, disclose the reporting boundaries considered, the calculation methods for estimating the GHG emissions as well as if and which calculation tools were applied. The Scope 3 categories should be consistent with the GHGP and include:
 - i. indirect Scope 3 GHG emissions from the consolidated accounting group (the parent and its subsidiaries),
 - ii. indirect Scope 3 GHG emissions from associates, joint ventures, and unconsolidated subsidiaries for which the undertaking has the ability to control the operational activities and relationships (i.e., operational control),
 - iii. Scope 1, 2 and 3 GHG emissions from associates, joint ventures, unconsolidated subsidiaries (investment entities) and joint arrangements for which the undertaking does not have operational control and when these entities are part of the undertaking's value chain.
- (i) disclose a list of Scope 3 GHG emissions categories included in and excluded from the inventory with a justification for excluded Scope 3 categories;
- (j) disclose biogenic emissions of carbon from the combustion or biodegradation of biomass that occur in its value chain separately from the gross Scope 3 GHG emissions, and include emissions of other types of GHG (such as N₂O), and emissions of CO₂ that occur in the life cycle of biomass other than from combustion or biodegradation (such as GHG emissions from processing or transporting biomass) in the calculation of Scope 3 GHG emissions;
- (k) exclude any purchased, sold or transferred carbon credits or GHG allowances from the calculation of Scope 3 GHG emissions;

- (l) disclose carbon uptakes and emissions (CO₂, CO, CH₄) from land use and land use change in its value chain separately from the Scope 3 GHG emissions, but include emissions of other types of GHG when applicable.

AR 42. When preparing the information on the total GHG emissions required under Paragraph 49, the undertaking shall:

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

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

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

AR 43. The total GHG emissions disaggregated by Scopes 1 and 2 and significant Scope 3 shall be presented according to the table below.

	Retrospective				Milestones and target years			
	Base year	Compa-rative	N	% N / N-1	2025	2030	(2050)	Annual % target / Base year
Scope 1 GHG emissions								
Gross Scope 1 GHG emissions (tCO ₂ eq)								
Percentage of Scope 1 GHG emissions from regulated emission trading schemes (%)								
Scope 2 GHG emissions								
Gross location-based Scope 2 GHG emissions (tCO ₂ eq)								
Gross market-based Scope 2 GHG emissions (tCO ₂ eq)								
Significant scope 3 GHG emissions*								
Total Gross indirect (Scope 3) GHG emissions (tCO ₂ eq)								
Purchased goods and services								
[Optional sub-category: Cloud computing and data centre services								
Capital goods]								
Fuel and energy-related activities								
Upstream leased assets								
Waste generated in operations								
Processing of sold products								
Use of sold products								

End-of-life treatment of sold products								
Downstream leased assets								
Franchises								
Upstream transportation and distribution								
Downstream transportation and distribution								
Business travels								
Employee commuting								
Financial investments								
Total GHG emissions								
Total GHG emissions (location-based) (tCO ₂ eq)								
Total GHG emissions (market-based) (tCO ₂ eq)								

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

AR 44. To highlight potential transition risks, the undertaking shall consider disclosing its total GHG emissions disaggregated by major countries and, if applicable, by operating segments (applying the same segments for the financial statements as required by the accounting standards, i.e., IFRS 8 *Operating Segments* or local GAAP). Scope 3 GHG emissions may be excluded from these breakdowns by country if the related data is not readily available.

AR 45. The Scope 3 GHG emissions may also be presented by overarching Scope 3 categories of the GHG Protocol to highlight the major sources of emissions in the value chain:

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

AR 46. 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 47. 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 48. When disclosing the information on GHG intensity based on net revenue required under Paragraph 50, the undertaking shall:

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

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

- (b) express the total GHG emissions in metric tons of CO₂eq and the net revenue in monetary units (e.g., Euros) and present the results for the market-based and location-based method;
- (c) include the total GHG emissions in the numerator and overall net revenue in the denominator;
- (d) calculate the total GHG emissions as required by Paragraphs 41 (d) and 49; and
- (e) calculate the net revenue in line with the requirements in accounting standards applied for financial statements, i.e., IFRS 15 or local GAAP.

AR 49. The quantitative information may be presented in the following tabular format.

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

Connectivity of GHG intensity based on revenue with financial reporting information

AR 50. 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 E1-7 – GHG removals and GHG mitigation projects financed through carbon credits

GHG removals and storage in own operations and the value chain

AR 51. 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 an undertaking's efforts to remove GHGs from the atmosphere (Paragraphs 53 (a) and 55). The GHG removals outside the value chain that the undertaking supports through the purchase of carbon credits are to be disclosed separately as required by Paragraphs 51 (b) and 54.

AR 52. When disclosing the information on GHG removals and storage from an undertaking's own operations and its value chain required under Paragraphs 53 (a) and 55, for each removal and storage activity, the undertaking shall describe:

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

Calculation guidance

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

- (a) consider, as far as applicable, the GHG Protocol Corporate Standard (version 2004), Product Standard (version 2011), Agriculture Guidance (version 2014), Land use, land use change, and forestry Guidance for GHG project accounting (version 2006);
- (b) apply consensus methods on accounting for GHG removals as soon as they are available, notably the EU regulatory framework for the certification of CO₂ removals;
- (c) if applicable, explain the role of removals for its climate change mitigation policy;
- (d) include removals from operations that it owns or controls;
- (e) account for the GHG emissions associated with a removal activity under Disclosure Requirements E1-6 (Scopes 1, 2 or 3). To increase transparency on the efficiency of a removal activity, the undertaking may disclose the GHG emissions associated with this activity (e.g., GHG emissions from electricity consumption of direct air capture technologies) alongside, but separately from, the amount of removed GHG emissions;
- (f) in case of a reversal, account for the respective GHG emissions as an offset for the removals in the reporting period;
- (g) use the most recent GWP values published by the IPCC based on a 100-year time horizon to calculate CO₂eq emissions of non-CO₂ gases and describe the assumptions made, methodologies and frameworks applied for calculation of the amount of GHG removals; and
- (h) consider nature-based solutions.

AR 54. 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 55. The quantitative information on GHG removals may be presented by using the following tabular format.

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

GHG mitigation projects financed through carbon credits

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

AR 57. When disclosing the information on carbon credits required under Paragraphs 51 (b) and 54, the undertaking shall consider disclosing the carbon credits with a breakdown of the following information, if applicable:

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

Calculation guidance

AR 58. When preparing the information on carbon credits required under Paragraphs 53 (b) and 56, the undertaking shall:

- (a) Consider recognized quality standards as those that are managed by a recognised GHG programme, are verifiable by independent third parties, make requirements and project reports publicly available and at a minimum ensure additionality, permanence, avoidance of double counting and provide rules for calculation, monitoring, and verification of the project's GHG emissions.
- (b) if applicable, explain the role of carbon credits in its climate change mitigation policy;
- (c) not include carbon credits issued from GHG emission reduction projects within its value chain as the respective GHG emission reductions shall already be disclosed under Disclosure Requirement E1-6 (Scope 2 or Scope 3) at the time they occur (i.e., double counting is avoided);
- (d) not include carbon credits from GHG removal projects within its value chain as the respective GHG removals may already be accounted for under Disclosure Requirement E1-7 at the time they occur (i.e., double counting is avoided);
- (e) not disclose carbon credits as an offset for its GHG emissions under Disclosure Requirements 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 on Targets; and
- (g) calculate the amount of carbon credits to be cancelled in the future, as the sum of carbon credits in metric tons of CO₂eq over the duration of existing contractual agreements.

AR 59. 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 ₂ eq)		
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 ₂ eq)	

Disclosure Requirement E1-8 – Internal carbon pricing

AR 60. When disclosing the information required under Paragraphs 59 and 60, if applicable, the undertaking shall briefly explain whether and how the carbon prices used in internal carbon pricing schemes are consistent with those used in financial statements. This shall be done in respect of the internal carbon prices used for,

- (a) the assessment of the useful life and residual value of its assets (intangibles, property, plant and equipment);
- (b) the impairment of assets; and
- (c) the fair value measurement of acquired assets during business acquisitions.

AR 61. The information may be presented by using the following table:

Types of internal carbon prices	Volume at stake (tCO ₂ eq)	Prices applied (€/tCO ₂ eq)	Perimeter description
CapEx shadow price			
Research and Development (R&D) investment shadow price			
Internal carbon fee or fund			
Carbon prices for impairment testing			
Etc.			

Disclosure Requirement E1-9 – Potential financial effects from material physical risks, material transition risks and climate-related opportunities

Potential financial effects from material physical and transition risks

AR 62. Material climate-related physical and transition risks may affect the undertaking's financial position (e.g., owned assets and liabilities) and performance (e.g., potential future increase/decrease in net revenue and costs due to business interruptions, increased supply prices resulting in potential margin erosions). The low probability, high severity and long-term time horizons of some climate-related physical risk exposures and the uncertainty arising from the transition to a sustainable economy mean that there will be associated material potential financial effects that are outside the scope of the requirements of existing accounting standards.

AR 63. Currently, there is no commonly accepted methodology to assess or measure how material physical and transition risks may affect the undertaking's future financial position and performance. Therefore, the disclosure of these effects (as required by Paragraphs 61, 63 and 64) will depend on the undertaking's internal methodology and the exercise of significant judgement in determining the inputs, and assumptions needed to quantify their potential financial effects.

AR 64. The information required by this disclosure requirement on potential financial effects differs from and is in addition to the information on the current/past financial effects reflected in the financial statements required under ESRS 2 SBM4 Paragraph 48 (b) (ii).

Calculation guidance- Potential financial effects from material physical risk

AR 65. When disclosing the information required under Paragraphs 61 (a) and 63, the undertaking shall explain whether and how:

- (a) it assessed the potential financial effects for assets and business activities at material physical risk, including the scope of application, time horizon, 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 11 and to determine climate scenarios as required under Paragraphs 19 and AR 13 to 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 66. When preparing the information on assets at material physical risk that is required to be disclosed under Paragraph 61, 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, an undertaking shall:
 - (i) disclose the location of its significant assets at material physical risk. Significant assets located¹⁶ in the EU territory shall be aggregated by NUTS codes 3 level digits. For significant assets located outside EU territory, the breakdown by NUTS code will only be provided where applicable.
 - (ii) disaggregate the monetary amounts of assets at risk by acute and chronic physical risk¹⁷.
- (d) calculate the share of assets at material physical risk resulting from AR 63 (a) that is addressed by the climate change adaptation action plan(s) based on the information disclosed under Disclosure Requirement E1-3. This aims at approximating net risks.

AR 67. When preparing the information required under Paragraph 61 (c), 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

¹⁶ This disclosure requirement is consistent with the requirements of EBA Pillar 3 ITS- [Template 5 exposures subjects to physical risk](#)

¹⁷ Ibid

factors (hazards, exposure and sensitivity) and, if possible, the magnitude of the potential financial effects in terms of margin erosion over the short-, medium- and long-term. The nature of business activities may also be disaggregated by operating segments if the undertaking has disclosed the contribution of margins by operational segments in its segment reporting in the financial statements.

Calculation guidance- Potential financial effects from transition risk

AR 68. When disclosing the information required under Paragraphs 61 (b) and 64, 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 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 69. When disclosing the information on assets at material transition risk as required under Paragraphs 62 (a) and (b):

- (a) the undertaking shall at the very least include an estimate of the amount of potentially stranded assets (in monetary amounts and as a proportion/percentage) from the reporting year until 2030 and from 2030 to 2050. Stranded assets are understood as the active or firmly planned key assets of the undertaking with significant locked-in GHG emissions over their operating lifetime. Firmly planned key assets are those that the undertaking will most likely deploy within the next five years. The amount may be expressed as a range of asset values based on different climate and policy scenarios, including a scenario aligned with limiting climate change to 1.5°C.
- (b) the undertaking shall disclose a breakdown of the carrying value of its real estate assets by energy efficiency classes. The energy efficiency shall be represented in terms of either the ranges of energy consumption in kWh/m² or the EPC¹⁸ (Energy Performance Certificate)¹⁹ 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 action plan(s) 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 70. When disclosing the information on potential liabilities from material transition risks required under Paragraph 64 (d):

¹⁸ 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).

¹⁹ This disclosure requirement is consistent with the requirements of EBA Pillar 3 ITS- [Template 2 immovable property, energy efficiency of the collateral](#)

- (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 ton to be purchased;
- (b) 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;
- (c) 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;
- (d) 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:
$$\begin{aligned} & (\text{gross Scope 1 GHG emissions (t CO}_2\text{eq)} \\ & + \text{gross Scope 2 GHG emission (t CO}_2\text{eq)}) \\ & \times \text{GHG emission cost rate } \left(\frac{\text{€}}{\text{t CO}_2\text{eq}} \right) \end{aligned}$$
 - (ii) monetised total GHG emissions in the reporting year by the following formula:
$$\begin{aligned} & \text{Total GHG emissions (t CO}_2\text{eq)} \\ & \times \text{GHG emission cost rate } \left(\frac{\text{€}}{\text{t CO}_2\text{eq}} \right) \end{aligned}$$
 - (iii) by use of a lower, middle and upper cost rate for GHG emissions (e.g., market carbon price and different estimates for the societal costs of carbon) and reasons for selecting them.

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

AR 71. Other approaches and methodologies may be applied to assess how transition risks may affect the future financial position of the undertaking. In any case, the disclosure of financial effects shall include a description of the methodologies and definitions used by the undertaking.

AR 72. When preparing the information required under Paragraph 62 (d), the undertaking may assess and disclose the share of net revenue from business activities at transition risks. This disclosure

- (a) shall be based on the net revenue in line with the requirements in accounting standards applied for financial statements, i.e., IFRS 15 or local GAAP.
- (b) may include a breakdown of the undertaking's business activities with the corresponding details of the associated percentage of current net revenue, risk factors (events and exposure), and when possible, the potential financial effects related to margin erosion over the short-, medium- and long-term. 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 73. The reconciliation of the significant amount of assets, liabilities, and net revenue (vulnerable to either material physical or transition risks) to the relevant line item or disclosure (e.g., in segment reporting) in the financial statements (as required by Paragraph 65) may be presented by the undertaking as follows:

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

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

AR 74. The undertaking shall ensure the consistency of data and assumptions to assess and report the financial effects from material physical and transition risks in the sustainability report with the corresponding data and assumptions used for the financial statements (e.g., carbon prices used for assessing impairment of assets, the useful life of assets, estimates and provisions). The undertaking shall explain the reasons for any inconsistencies (e.g., if the full financial implications of climate-related risks are still under assessment or are not deemed material in the financial statements).

AR 75. For potential future effects on liabilities (as required by Paragraph 61 (d)), if applicable, the undertaking shall cross-reference the description of the emission trading schemes in the financial statements.

Climate-related opportunities

AR 76. When disclosing the information under Paragraph 67 (a), the undertaking shall explain the nature of the cost savings (e.g., from reduced energy consumption), the time horizon and the methodology used, including the scope of the assessment, critical assumptions and limitations, and whether and how scenario analysis was applied.

AR 77. When disclosing the information required under Paragraph 67 (b), the undertaking shall explain how it has assessed the market size or any expected changes to net revenue from low-carbon products and services or adaptation solutions including the scope of the assessment, the time horizon, critical assumptions and limitations and to what extent this market is accessible to the undertaking. The information on the market size may be put in perspective to the current taxonomy-aligned revenue disclosed under the provisions of the Regulation (EU) 2020/852. The entity may also explain how it will pursue its climate-related opportunities and, where possible, this should be linked to the disclosures on policies, targets and action plans under Disclosure Requirement E1-4.

Appendix C: Mandatory items as a result of EU Regulation requirements

This appendix is an integral part of the [draft] ESRS E1 Climate change and supports the information needs of financial market participants subject to Regulation (EU) 2019/2088.

#	ESRS E1 reference	Requirement	EU legislation or regulation reference
1	ESRS E1 DR E1-1 Paragraphs 13 and AR 1	The undertaking shall disclose its plans to ensure that its business model and strategy are compatible with... with no or limited overshoot as established in Regulation (EU) 2021/1119	EU Climate Law Article 2 of Commission Delegated Regulation (EU) 2020/1818 (Climate Benchmark Standards Regulation)
2	ESRS E1-1 Paragraphs 15 (f) and AR 6	The undertaking shall disclose whether or not it is excluded from the EU Paris-aligned benchmarks	Articles 12.1 and 12.2 of Commission Delegated Regulation (EU) 2020/1818 (Climate Benchmark Standards Regulation) EBA Pillar 3: Article 449a Capital Requirements Regulation – CRR; Template 1: Banking book- Climate Change transition risk: Credit quality of exposures by

			sector, emissions and residual maturity)
3	ESRS E1 DR E1-4, Paragraph 32	For the disclosure of GHG emission reduction targets the following requirements shall apply (...)	SFDR Indicator 4 of Table 2 Article 6 of Commission Delegated Regulation (EU) 2020/1818 (Climate Benchmark Standards Regulation)
4	ESRS E1 DR E1-5, Paragraphs 33 and 35	The disclosure required by Paragraph 32 shall include the total energy consumption in MWh as follows: (a) total energy consumption from non-renewable sources disaggregated for high climate impact sectors by (...)	SFDR Indicator 5 of Table 1 (share of non-renewable vs renewable) and Table 2 (breakdown of non-renewable)
5	ESRS E1 DR E1-5 Paragraph 37	The undertaking shall provide information on the energy intensity (total energy consumption per net revenue) associated with activities in high climate impact sectors.	
6	ESRS E1 DR E1-6, Paragraph 41	The undertaking shall disclose its: (a) gross Scope 1 GHG emissions in metric tons of CO ₂ eq. (b) gross indirect energy Scope 2 GHG emissions in metric tons of CO ₂ eq. (c) gross indirect Scope 3 GHG emissions in metric tons of CO ₂ eq. (d) total GHG emissions in metric tons of CO ₂ eq.	SFDR Indicators 1 & 2 of Table 1 Articles 5 (1),6, 8 (1) of Commission Delegated Regulation (EU) 2020/1818 (Climate Benchmark Standards Regulation)
7	ESRS E1 DR E1-6, Paragraph 50	The undertaking shall disclose its GHG emissions intensity (total GHG emissions per net revenue).	

			<p>SFDR Indicator 3 of Table 1</p> <p>EBA Pillar 3 ITS (Emissions intensity metrics in terms of net turnover)</p> <p>Article 8 (1) of Commission Delegated Regulation (EU) 2020/1818 (Climate Benchmark Standards Regulation)</p>
8	E1-7 GHG removals and carbon credits, Paragraph 58	In addition to reporting on its gross GHG emission reduction targets as required in DR E1-4 and possibly on its net zero targets in line with Paragraph 57, the undertaking may have made public claims of GHG neutrality that involve the use of carbon credits by reference to the information disclosed under Paragraph 51 (b). In such a case, the undertaking shall explain the credibility and integrity of the carbon credits used, and whether and how its claims of GHG neutrality do not impede or reduce its GHG emission reduction targets.	EU Climate Law (Reaching climate neutrality by 2050)
9 10 11	<p>ESRS E1 DR E1-9 Paragraphs 61 (a) and 63</p> <p>ESRS E1 DR E1-9 Paragraphs 63 (a) and AR 64 (a) (ii)</p> <p>ESRS E1 DR E1-9 Paragraphs 63 (c) and AR 64 (a) (i)</p>	<p>Exposure of the benchmark portfolio to climate-related physical risks</p> <p>Disaggregation of monetary amounts by acute and chronic physical risk</p> <p>Location of significant assets at material physical risk</p>	<p>Commission Delegated Regulation (EU) 2020/1818 (Climate Benchmark Standards Regulation)</p> <p>EBA Pillar 3 ITS requires banks to disclose information on their exposures towards assets and investments subject to physical risk with a breakdown: (1) by geography (based on the location of the</p>

12	ESRS E1 DR E1-9 Paragraphs 64 (c) and AR 67 (b)	Breakdown of the carrying value of real estate assets by energy-efficiency classes	investment) and (2) between acute and chronic physical risk. (Article 449a CRR; Final draft ITS, paragraphs. 46 and 47; Template 5: Banking book - Climate change physical risk: Exposures subject to physical risk). EBA Pillar 3 requirement for banks to disclose information on their loans' real estate portfolio by the energy efficiency of the collateral (based on EPC label and/or energy intensity). (Article 449a CRR; Final draft ITS, paragraph. 34; Template 2: Banking book - Climate change transition risk: Loans collateralised by immovable property - Energy efficiency of the collateral) Commission Delegated Regulation (EU) 2020/1818 (Climate Benchmark Standards Regulation)
13	ESRS E1 DR E1-9 Paragraphs 61 (c), 67, AR 76 and AR 77	Degree of exposure of the portfolio to climate-related opportunities	



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