EXPOSURE DRAFT

ESRS E1
Climate change

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PTF-ESRS

Project Task Force on European sustainability reporting standards

EFRAG

DISCLAIMER

This Exposure Draft has to be read in conjunction with the cover note for ESRS public consultation. It has been prepared under the sole responsibility of the EFRAG PTF-ESRS and is submitted to public consultation by EFRAG SRB to inform the upcoming standard-setting steps. It therefore does not reflect the EFRAG SRB's position at this stage, nor the position of the European Union or European Commission DG Financial Stability, Financial Services and Capital Markets Union (DG FISMA), nor the position of organisations with which the EFRAG PTF-ESRS has cooperated. The final version of the [draft] Standard will be produced by the EFRAG SRB starting from this Exposure Draft, taking into consideration the outcome of the public consultation and the requirements of the final CSRD.

[Draft] ESRS 1 Climate change is set out in paragraphs 1–75 and Appendices A: Defined terms and B: Application Guidance. All the paragraphs, including those in the Appendices A and B, have equal authority. Each Disclosure Requirement objective is stated in a bold paragraph, followed by a paragraph that illustrates the principle to be followed in the preparation of the respective disclosures. The [draft] Standard also uses terms defined in other [draft] ESRS and should be read in the context of its 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 or potential impacts;

   (b) its 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, 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, related to the undertaking's impacts and dependencies on climate change, on the undertaking's development, performance and position over the short-, medium- and long-term and therefore on its ability to create enterprise value.

2. This [draft] Standard derives from the [Draft Corporate Sustainability Reporting Directive] stating that the sustainability reporting standards shall specify which information to disclose about climate change mitigation and climate change adaptation.

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 to the seven Greenhouse Gases (GHG) carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PCFs), sulphur hexafluoride (SF_6) and nitrogen trifluoride (NF_3). It also covers disclosure requirements on how the undertaking addresses its GHG emissions as well as the transition risks associated with them. Other impacts on climate change (e.g., from land use changes, black carbon, tropospheric ozone etc.), are not explicitly addressed by this [draft] Standard but should be included as part of the assessment of material impacts on climate change.

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 adaptation solutions that can reduce these risks. It also covers transition risks arising from the adaptation needs to climate-related hazards.

6. Energy covers 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 on strategy and business model, governance and organisation and Impacts, risks and opportunities, as well as policies, targets, action plans and resources shall be read in conjunction respectively with ESRS 1 General Principles and ESRS 2 General, Strategy, Governance and Materiality Assessment.

9. 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.[1]

Disclosure Requirements

General, strategy, governance and materiality assessment

10. The provisions of this section shall be read in conjunction with and reported alongside the disclosures required by ESRS 2.

11. Appendix B of this [draft] Standard contains specific climate-related application guidance the undertaking shall follow when disclosing information under ESRS 2, in particular with regards to:

    (a) the resilience of the strategy and business model to climate-related risks, referring to ESRS 2 Disclosure Requirement SBM 4;

    (b) the process to determine material climate-related impacts, risks and opportunities and the outcome of this process, referring to ESRS 2 Disclosure Requirements IRO 1 and IRO 2; and

    (c) climate-related incentive schemes, including remuneration and internal carbon pricing schemes, referring to ESRS 2 Disclosure Requirements GOV 4.

12. In addition to the requirements in ESRS 2, this [draft] Standard also includes one topic-specific ESRS E1 Disclosure Requirement 1 Transition plan for climate change mitigation.

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

13. **The undertaking shall disclose its plans to ensure that its business model and strategy are compatible with the transition to a climate-neutral economy and with limiting global warming to 1.5 °C in line with the Paris Agreement.**

14. The principle to be followed under this Disclosure Requirement is to provide an understanding of the transition plan of the undertaking and its compatibility with limiting global warming to 1.5°C.

15. The information required by paragraph 13 shall include:

    (a) by reference to GHG emission reduction targets (ESRS E1 Disclosure Requirement 3), an explanation of their alignment with limiting global warming to 1.5°C;

    (b) by reference to GHG emission reduction targets (ESRS E1 Disclosure Requirement 3) and the climate change mitigation action plan (ESRS E1 Disclosure Requirement 4), an explanation of the decarbonisation levers identified, and key actions planned, including changes in the undertaking's product and service portfolio and the adoption of new technologies;

    (c) by reference to the climate change mitigation action plan (ESRS E1 Disclosure Requirement 4), an explanation of the financial resources supporting the implementation of the transition plan;

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[1] ESRS SEC 1 to be issued at a later stage.

(d) the locked-in GHG emissions from key assets and products, including an explanation if and how these can jeopardise the achievement of GHG emission reduction targets and drive transition risk, and the plans to manage GHG- and energy-intensive assets and products;

(e) an explanation of the role of aligning economic activities with the provisions of Regulation (EU) 2020/852, including any delegated regulations related to climate change mitigation and adaptation, and the plans for future Taxonomy alignment;

(f) an explanation of how the transition plan is embedded in and aligned with its overall business strategy and financial planning and whether it is approved by the administrative, management and supervisory bodies of the undertaking; and

(g) an explanation of the progress made in implementing the transition plan.

Policies, targets, action plans and resources

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

16. **The undertaking shall disclose its policies related to climate change mitigation and its policies related to climate change adaptation.**

17. The principle to be followed under this Disclosure Requirement is to provide an understanding of how the undertaking monitors and manages its GHG emissions, climate-related physical and transition risks and opportunities throughout the value chain.

18. The description of the climate change mitigation and adaptation policies shall follow the principles defined in ESRS 1 Disclosure Principle 1 On policies adopted to manage material sustainability matters.

19. The undertaking shall in addition disclose an overview of the main legal requirements it has to comply with and of other needs and expectations of stakeholders it has chosen to comply with, including third-party standards or initiatives.

Disclosure Requirement E1-3 – Measurable targets for climate change mitigation and adaptation

20. **The undertaking shall disclose the climate-related targets it has adopted.**

21. The principle to be followed under this Disclosure Requirement is to provide an understanding of the targets the undertaking has adopted to support its climate change mitigation and adaptation policies and address its material climate-related impacts, risks and opportunities.

22. The description of the targets shall follow the principles defined in ESRS 1 Disclosure Principle 2 On targets, progress and tracking effectiveness which are referenced under paragraph 24 below.

23. The disclosure required by paragraph 20 relates to targets for the reduction of the undertaking's GHG emissions in Scope 1, 2 and 3 as well as other targets to manage material climate-related impacts, risks and opportunities, for example renewable energy deployment, energy efficiency, climate change adaptation, physical or transition risk mitigation.

24. The following table includes the general requirements for the disclosure of all types of climate-related targets and additional requirements for the disclosure of GHG emission reduction targets[2]:

	General requirements for disclosure of climate-related targets (based on ESRS 1 Disclosure Principle 2)	Additional requirements for disclosure of GHG emission reduction targets
	For each target, the undertaking shall disclose:	
(a)	the relationship of the target to the policy objectives	No additional requirement.
(b)	the defined level of ambition (quantitative and qualitative depending on the nature of the target) to be achieved, including, where applicable, whether the target is absolute or relative and in which unit it is measured;	The undertaking shall disclose GHG emission reduction targets in absolute value and, if deemed meaningful, in intensity value (relative).
(c)	the scope of the target, including an explanation of any limitations as to its operations, value chain and geographical boundaries or activities;	The undertaking shall disclose GHG emission reduction targets on Scope 1, Scope 2 and Scope 3, either separately or combined and explain how consistency of these targets with the GHG inventory boundaries is ensured (ESRS E1 Disclosure Requirements 7 to 10). The undertaking shall not include GHG removals, carbon credits or avoided emissions as means to achieve these targets.
(d)	If applicable, the baseline value and base year from which progress is measured;	The undertaking shall, from 2025 onwards, update the base year for its GHG emission reduction targets in five-year rolling periods.
(e)	the timeframe to achieve the target, including any milestones or interim targets;	The undertaking shall disclose GHG emission reduction targets in five-years rolling periods and at least include target values for the years 2030 and, if available, 2050. The information shall be presented over the target period with reference to a cross-sector or sector-specific emission pathway in line with limiting global warming to 1.5°C.
(f)	the methodologies and significant assumptions used to define targets, including, where applicable, the selected scenario, data sources, alignment with science-based methodologies, and national, EU or international policy goals;	The undertaking shall state whether the GHG emission reduction targets are science-based and in line with limiting global warming to 1.5°C. The undertaking shall state which methodology has been used to determine this, including the underlying climate and policy scenarios.

[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.

		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., sales volumes, customer preferences and demand, regulatory factors) and new technologies and how these potentially increase or decrease GHG emissions.
(g)	any changes in targets or underlying methodologies and assumptions adopted within the defined time horizon together with an explanation of the rationale for those changes and their effect on comparability; and	No additional requirement.
(h)	the overall progress towards the defined target, including information on how the target is monitored and reviewed, whether the progress is in line with what had been initially planned, and an analysis of trends or significant changes in the performance of the undertaking towards achieving the target.	The undertaking shall provide an explanation of the expected quantitative contributions from different decarbonisation levers to the achievement of the GHG emission reduction targets (e.g., energy or material efficiency and consumption reduction, fuel switching, use of renewable energy or product and process change, phase out or substitution).

25. In case the undertaking discloses a net-zero target, it shall explain the scope, methodologies and frameworks applied and how the residual GHG emissions are intended to be neutralised, e.g., by GHG removals in own operations and the value chain (ESRS E1 Disclosure Requirement 12).

26. In case the undertaking discloses GHG neutrality claims that involve the use of carbon credits, it shall explain by reference to ESRS E1 Disclosure Requirement 13 the credibility and integrity of the carbon credits used and how it ensures that such claims do not impede or lower the ambition of its GHG emission reduction targets.

27. In case the undertaking has not adopted climate-related targets and, in particular GHG emission reduction targets, it shall disclose:

   (a) if and when such targets will be adopted or the reasons why there is no plan to adopt such targets; and

   (b) how progress is measured and monitored without specific climate-related targets.

Disclosure Requirement E1-4 – Climate change mitigation and adaptation action plans and resources

28. **The undertaking shall disclose its climate change mitigation and adaption action plans and the resources allocated for their implementation.**

29. The principle to be followed under this Disclosure Requirement is to provide transparency on the key actions taken and planned to achieve climate-related targets and to manage GHG emissions, transition and physical risks and opportunities, supporting the understanding of achieved performance improvements and the credibility of the undertaking’s policies, strategy and business model with regards to climate change.

30. The description of the climate-related action plans and resources shall follow ESRS 1 Disclosure Principle 3 Actions, action plans and resources in relation to policies and targets. In addition to ESRS 1 Disclosure Principle 3, the undertaking shall:

(a) when describing the outcome of the actions for climate change mitigation, include the achieved or expected GHG emission reductions; and

(b) relate monetary amounts to the most relevant amount presented in the financial statements.

Performance measurement

Disclosure Requirement E1-5 – Energy consumption and mix

31. **The undertaking shall provide information on its energy consumption.**

32. The principle to be followed is to provide an understanding of the undertaking's absolute energy consumption, improvement in energy efficiency and share of renewable energy in its overall energy mix.

33. The disclosure required by paragraph 31 shall include the total energy consumption in MWh as follows:

(a) total energy consumption from non-renewable sources[3], broken down by:

i. fuel consumption from coal and coal products;

ii. fuel consumption from crude oil and petroleum products;

iii. fuel consumption from natural gas;

iv. fuel consumption from other non-renewable sources;

v. consumption from nuclear products; and

vi. consumption of purchased or acquired electricity, heat, steam, and cooling from non-renewable sources; and

(b) total energy consumption from renewable sources, broken down by:

vii. fuel consumption for renewable sources (including biomass, biogas, non-fossil fuel waste, hydrogen from renewable sources, etc.);

viii. consumption of purchased or acquired electricity, heat, steam, and cooling from renewable sources; and

ix. consumption of self-generated non-fuel renewable energy.

34. In addition, the undertaking shall disclose separately its non-renewable energy production from non-renewable energy sources and its renewable energy production from renewable sources in MWh.[4]

[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] 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.

Disclosure Requirement E1-6 – Energy intensity per net turnover

35. **The undertaking shall provide information on the energy consumption associated with activities in high climate impact sectors per net turnover of these activities.**[5]

36. The disclosure required by paragraph 35 shall provide the energy consumption in MWh per net turnover in monetary unit.

37. The undertaking shall disclose a reconciliation of the net turnover reference to the most relevant amount presented in the financial statements.

Disclosure Requirement E1-7 – Scope 1 GHG emissions

38. **The undertaking shall disclose its gross Scope 1 GHG emissions in metric tons of CO_2 equivalent.**[6]

39. The principle to be followed under this Disclosure Requirement is to provide an understanding of the direct impacts of the undertaking on climate change and the part of its GHG emissions that are regulated under emission trading schemes. This information is also a prerequisite to understand the undertaking's climate-related transition risks.

40. The disclosure required by paragraph 38 shall include:

    (a) the gross Scope 1 GHG emissions in metric tons of CO_2 equivalent; and

    (b) the share of Scope 1 GHG emissions under regulated emission trading schemes (%).

Disclosure Requirement E1-8 – Scope 2 GHG emissions

41. **The undertaking shall disclose its gross indirect energy Scope 2 GHG emissions in metric tons of CO_2 equivalent.**[7]

42. The principle to be followed under this Disclosure Requirement is to provide an understanding of the indirect impacts on climate change caused by the undertaking's consumed energy whether externally purchased or acquired.

43. The disclosure required by paragraph 41 shall include:

    (a) the gross location-based Scope 2 GHG emissions in metric tons of CO_2 equivalent; and

    (b) the gross market-based Scope 2 GHG emissions in metric tons of CO_2 equivalent.

Disclosure Requirement E1-9 – Scope 3 GHG emissions

44. **The undertaking shall disclose its gross indirect Scope 3 GHG emissions in metric tons of CO_2 equivalent.**[8]

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[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 #6 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 indicators #1 and #2 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 indicators #1 and #2 in Table 1 of Annex 1 of the related Delegated Regulation with regard to disclosure rules on sustainable investments.
[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 indicators #1 and #2 in Table 1 of Annex 1 of the related Delegated Regulation with regard to disclosure rules on sustainable investments.

45. The principle to be followed under this Disclosure Requirement 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 are the main component of the GHG inventory and an important driver of their transition risks.

46. The disclosure required by paragraph 44 shall include GHG emissions from significant Scope 3 categories and presented as a breakdown by GHG emissions from: (i) upstream purchasing, (ii) downstream sold products, (iii) goods transportation, (iv) travel and (v) financial investments.

Disclosure Requirement E1-10 – Total GHG emissions

47. **The undertaking shall disclose its total GHG emissions in metric tons of CO_2 equivalent.**[9]

48. The principle to be followed under this Disclosure Requirement is to provide an overall understanding of the undertaking's GHG emissions and whether they occur from its own operations or the value chain. The disclosure is a prerequisite for measuring progress towards reducing GHG emissions in accordance with the undertaking's climate-related targets and EU policy goals as well as for the assessment of the undertaking's transition risks.

49. The disclosure required by paragraph 47 shall be the sum of Scope 1 GHG emissions under ESRS E1 Disclosure Requirement 7, Scope 2 GHG emissions under ESRS E1 Disclosure Requirement 8 and Scope 3 GHG emissions under ESRS E1 Disclosure Requirement 9 and be presented in terms of location-based and market-based methods.

Disclosure Requirement E1-11 – GHG intensity per net turnover

50. **The undertaking shall disclose its total GHG emissions per net turnover.**[10]

51. The disclosure required by paragraph 50 shall provide the total GHG emissions in metric tons of CO_2 equivalent (ESRS E1 Disclosure Requirement 10) per net turnover (monetary unit).

52. The undertaking shall disclose a reconciliation of the net turnover reference to the most relevant amount presented in the financial statements.

Disclosure Requirement E1-12 – GHG removals in own operations and the value chain

53. **The undertaking shall disclose GHG removals from own operations and the upstream and downstream value chain in metric tons of CO_2 equivalent.**

54. The principle to be followed under this Disclosure Requirement is to provide in a comparable manner transparency on actions to permanently remove or actively support the removal of GHG from the atmosphere.

55. The disclosure required by paragraph 53 shall include:

    (a) the total amount of GHG removals in metric tons of CO_2eq, separated for own operations and the value chain and broken down by removal activity;

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[9] 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 indicators #1 and #2 in Table 1 of Annex 1 of the related Delegated Regulation with regard to disclosure rules on sustainable investments.

[10] 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) a description of each removal activity, including:

   i. the GHGs concerned;

   ii. whether removal and storage are biogenic (e.g., afforestation, reforestation, forest restoration, urban tree planting, agroforestry, building soil carbon, etc.), technological (e.g., direct air capture), or hybrid (e.g., bioenergy with CO_2 capture and storage) and technological details;

   iii. if applicable, a brief explanation whether the activity qualifies as a nature-based solution; and

   iv. how the risk of non-permanence is managed, including determining and monitoring of leakage; and

(c) calculation assumptions, methodologies and frameworks applied.

Disclosure Requirement E1-13 – GHG mitigation projects financed through carbon credits

56. **The undertaking shall disclose the amount of GHG emission reductions or removals from climate change mitigation projects outside its value chain it has financed through the purchase of carbon credits.**

57. The principle to be followed under this Disclosure Requirement 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.

58. The disclosure required by paragraph 56 shall include:

(a) the total amount of carbon credits in metric tons of CO_2eq that are verified against recognised national or international quality standards and cancelled in the reporting period, broken down by:

   i. the share (in % of volume) of reduction projects and removal projects;

   ii. the share (in % of volume) for each recognised quality standard;

   iii. the share (in % of volume) issued from projects in the European Union; and

   iv. if applicable, the share (in % of volume) that qualifies as corresponding adjustments under Art. 6 of the Paris Agreement; and

(b) the total amount of carbon credits in metric tons of CO_2eq planned to be cancelled in the future, based on existing contractual agreements.

Optional Disclosure Requirement E1-14 – Avoided GHG emissions from products and services

59. **The undertaking may disclose its estimated total avoided GHG emissions from its products and services in metric tons of CO_2 equivalent.**

60. The principle to be followed under this optional Disclosure Requirement is to provide transparency on the methodologies used and assumptions made by the undertaking when estimating and communicating about the impacts of their products and services on climate change in comparison to other products and services, or in comparison to a situation where their products and services would not exist, considering that there is currently no generally accepted framework for accounting and reporting on such avoided emissions.

61. If the undertaking discloses the information according to paragraph 59, it shall provide details on:

(a) the assumptions made;

(b) data sources used and methodologies applied to estimate the comparative impacts (baseline and reference products for assessing additionality); and

(c) identified trade-offs with other (non-GHG) environmental impacts.

Taxonomy Disclosure Requirements - Taxonomy Regulation for climate change mitigation and climate change adaptation

62. The undertaking shall disclose information required by Art. 8 of the Regulation (EU) 2020/852 (Taxonomy Regulation) in conjunction with Annex I and Annex II of Commission Delegated Regulation (EU) 2021/2139 of 4 June 2021 and with the Commission Delegated Regulation (EU) 2021/2178 of 6 July 2021, both supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council.

63. Art. 8(2) of Regulation (EU) 2020/852 requires undertakings subject to the [Corporate Sustainability Reporting Directive] to disclose information on the proportion of the turnover, capital expenditure (‘CapEx’) and operating expenditure (‘OpEx’) or on their green asset ratio associated with economic activities that qualify as environmentally sustainable, among others, under the objectives of climate change mitigation and climate change adaptation.

64. The information to be disclosed under the climate-related provisions of Regulation (EU) 2020/852 is complementary to the information disclosed under the provisions of this [draft] Standard.

Disclosure Requirement E1-15 – Potential financial effects from material physical risks

65. **The undertaking shall disclose the estimated potential financial effects from its material physical risks.**

66. The principle to be followed under this Disclosure Requirement is to provide an understanding of how material climate-related physical risks may affect the undertaking’s performance and position over the short, medium and long term, considering that those potential future financial effects may not meet at the reporting date the recognition and measurement criteria set for assets and liabilities.

67. The disclosure required by paragraph 65 shall include:

(a) the assets (monetary amounts and percentage) at material physical risk over the short-, medium-, and long-term and the share of these assets addressed by the climate change adaptation action plan; and

(b) the share (%) of net turnover from its business activities at material physical risk over the short-, medium- and long-term.

68. The undertaking shall disclose a reconciliation of these assets and share of net turnover to the most relevant amounts presented in the financial statements.

Disclosure Requirement E1-16 – Potential financial effects from material transition risks

69. **The undertaking shall disclose the estimated potential financial effects from material transition risks.**

70. The principle to be followed under this Disclosure Requirement is to provide an understanding of how material climate-related transition risks may affect the undertaking's performance and position over the short-, medium- and long-term, considering that those potential future financial effects may not meet at the reporting date the recognition and measurement criteria set for assets and liabilities.

71. The disclosure required by paragraph 69 shall include:

(a) the assets (monetary amounts and percentage) at material transition risk over the short-, medium- and long-term and the share of these assets addressed by the climate change mitigation action plan;

(b) the liabilities (monetary amounts) that may have to be recognised in financial statements over the short-, medium- and long-term; and

(c) the share (%) of turnover from its business activities at material transition risk.

72. The undertaking shall disclose a reconciliation of these assets and turnover to the most relevant amount presented in the financial statements.

Disclosure Requirement E1-17 – Potential financial effects from climate-related opportunities

73. **The undertaking shall disclose its potential financial effects from material climate-related opportunities.**

74. The principle to be followed under this Disclosure Requirement is to allow users to understand how the undertaking may financially benefit from material climate-related opportunities. The disclosure is complementary to information requested under the Taxonomy Regulation.

75. The disclosure required by paragraph 73, shall include:

(a) an assessment of its expected cost savings with regards to climate change mitigation and adaptation actions; and

(b) an assessment of the potential market size for low carbon products and services or adaptation solutions, to which the undertaking has or may have access.

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 (CO_2) equivalent (eq)	The amount of carbon dioxide (CO_2) emission that would cause the same integrated radiative forcing or temperature change, over a given time horizon, as an emitted amount of a greenhouse gas (GHG) or a mixture of GHGs. (IPCC, "Special Report: Global warming of 1.5 °C", Annex I: Glossary, 2018) CO_2eq is the universal unit of measurement to indicate the global warming potential (GWP) of each greenhouse gas, expressed in terms of the GWP of one unit of carbon dioxide. It is used to evaluate releasing (or avoiding releasing) different greenhouse gases against 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 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-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).
Direct GHG emissions (Scope 1)	GHG emissions from sources owned or controlled by the undertaking. (from GHG Protocol, “A corporate accounting and reporting standard”, 2004)
GHG removal and storage	(Anthropogenic) Removals refer to the withdrawal of GHGs from the atmosphere as a result of deliberate human activities. These include enhancing biological sinks of CO_2 and using chemical engineering to achieve long-term removal and storage. Carbon capture and storage (CCS) from industrial and energy-related sources, which alone does not remove CO_2 in the atmosphere, can reduce atmospheric CO_2 if it is combined with bioenergy production (BECCS). (IPCC, “Special Report: Global warming of 1.5 °C”, Annex I: Glossary, 2018)
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_2O), carbon dioxide (CO_2), nitrous oxide (N_2O), methane (CH_4) and ozone (O_3) are the primary GHGs in the Earth’s atmosphere. Moreover, there are a number of entirely human-made GHGs in the atmosphere, such as the halocarbons and other chlorine- and bromine-containing substances, dealt with under the Montreal Protocol. Beside CO_2, N_2O 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)
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	Internal carbon pricing scheme is an organizational arrangement that allows an undertaking to apply carbon prices in strategic and operational decision making. There are two types of internal carbon pricing schemes 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 operating segment based on its GHG emissions. (adapted from ISSB, “[Draft] IFRS S2 Climate-related Disclosures”, 2022)
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.
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 the energy which cannot be identified as deriving from renewable sources. (adapted from Annex 1 of the Delegated Regulation with regard to disclosures 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.
Purchased or acquired energy	When the undertaking has received the 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 the 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	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, “A corporate accounting and reporting standard”, Glossary, 2011) For the purpose of simplified presentation, the 15 categories should be grouped in: a) upstream purchasing, b) downstream sold products, c) goods transportation, d) travels and e) financial investments: Upstream purchasing includes the GHG protocol categories “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”; Downstream sold products comprises “processing of sold products”; “use of sold products”, “end-of-life treatment of sold products”, “Downstream leased assets”, “Franchises”; Goods transportation comprises “upstream transportation and distribution” and “downstream transportation and distribution”; Travels comprises business travels and employee commuting; Financial investments reflect the respective GHG Protocol category Significant indirect GHG emissions from cloud computing and data centre services may be presented separately under the category “upstream purchasing”.
Transition plan for climate change mitigation	Aspect of an undertaking’s overall strategy that lays out a set of targets and actions supporting its transition toward limiting climate change to 1.5°C.

Appendix B: Application Guidance

The provisions of this appendix shall be applied in conjunction with the [draft] disclosure requirements defined in paragraphs 1 to 75.

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.

General, strategy, governance and materiality assessment

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

AG 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 on how it will adjust its strategy and business model to ensure compatibility with the transition to a climate-neutral economy and with limiting of global warming to 1.5°C in line with the Paris Agreement (or an updated international agreement on climate change). The undertaking shall, where applicable, refer to and contextualise information presented under other disclosures requirements of this [draft] Standard.

AG 2. In case the undertaking does not or not yet have a transition plan in place that ensures compatibility with limiting of global warming to 1.5°C and reaching net-zero GHG emissions by 2050 at latest, it shall provide an explanation of its climate change mitigation ambition and whether and when it will adopt a transition plan.

AG 3. When disclosing the information required under paragraph 15 (d), the undertaking shall include:

(a) the cumulative locked-in GHG emissions associated with key assets from the reporting year until 2030 and 2050 in tCO_2eq, calculated as the sum of estimated Scope 1 and 2 GHG emissions of active and firmly planned key assets over their operating lifetime; key assets are owned or controlled, existing or planned assets (such as stationary or mobile installations, facilities, and equipment) that are significant direct and energy indirect GHG emission sources; firmly planned key assets are those that the undertaking will, with high probability, 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 tCO_2eq, calculated 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 Scope 3 category "use of sold products" as significant (ESRS E1 Disclosure Requirement 9 and AG48);

(c) critical assumptions made for the calculation of the locked-in GHG emissions from key assets and products;

(d) an explanation on if and how the locked-in GHG emission can jeopardise the achievement of GHG emission reduction targets and drive transition risk; and

(e) an explanation of the plans to manage, i.e., to transform, decommission or phase-out, GHG- and energy-intensive assets and products.

AG 4. When disclosing the information required under paragraph 15 (e), the undertaking shall make a reference to the information disclosed with regards to Art. 8 of the Taxonomy Regulation by explaining how the alignment of its economic activities with the provisions of the Delegated Act (EU) 2021/2139 supports its transition to a climate-neutral economy and net-zero GHG emissions.

AG 5. When disclosing the information required under paragraph 15 (f), the undertaking shall explain how its business strategy and financial planning, including future cashflows, interact with the achievability of its transition plan and GHG emission reduction targets.

AG 6. The undertaking may support the presentation of the information as appropriate by summarising graphs or tables, e.g., as a roadmap towards net-zero GHG emissions.

Climate-related specific application guidance on ESRS 2 Disclosure Requirement SBM 1 (paragraph 47 (d)) on the resilience of the strategy and business model

AG 7. The description of the resilience of the undertaking's strategy and business model(s) in relation to climate change shall include:

(a) the scope of the resilience analysis, particularly:

i. if the analysis relates to the whole undertaking or part of it, such as specific business models, subsidiaries, business units, sites or assets, and, if applicable, which own operations it has excluded and why;

ii. which upstream and downstream activities in the value chain it has covered in the analysis or why certain value chain considerations were excluded; and

iii. which material transition and physical climate-related risks (ESRS 2-IRO 1 and ESRS 2-IRO 2 on materiality assessment) are covered by the resilience analysis and, if applicable, which material climate-related risks were excluded and why;

(b) how the resilience analysis has been conducted, particularly:

i. the critical assumptions about the way the transition to a lower-carbon and resilient economy will affect the undertaking (macroeconomic trends, energy usage and mix, and technology assumptions), the time horizons considered, and their alignment with climate and business scenarios considered for determining material physical and transition risks (paragraphs AG14-21) and for setting GHG emissions reduction targets (ESRS E1 Disclosure Requirement 3), if any; and

ii. how the estimated potential financial effects from material physical and transition risks were considered (ESRS E1 Disclosure Requirements 15 and 16) as well as the mitigation actions and resources (ESRS E1 Disclosure Requirement 4);

(c) the results of the resilience analysis and particularly:

i. to what extent the assets and business activities at risk are covered by the strategy and current and planned mitigation actions and investments of the undertaking;

ii. the ability of the undertaking to absorb or adapt its business model in the future in terms of, for example, access to finance and cost of capital, product and services portfolio shift or reskilling of workforce.

Climate-related specific application guidance on Disclosure Requirement ESRS 2-GOV 4 (paragraphs 64 (a) and (b)) for climate-related remuneration

AG 8. The undertaking shall disclose whether and how the remuneration schemes for the members of the management, advisory and supervisory bodies, senior executives and other employees include climate-related performance indicators related to the achievement of climate-related targets.

AG 9. The undertaking shall in particular specify the link with the achievement of GHG emission reduction targets as reported under ESRS E1 Disclosure Requirement 3 of this [draft] Standard.

Climate-related specific application guidance on ESRS 2 Disclosure Requirement GOV 4 (paragraph 64 (c)) for internal carbon pricing schemes

AG 10. The undertaking shall disclose whether it applies internal carbon pricing schemes, and if so, how they support its decision making and incentivise the implementation of climate-related policies and targets.

AG 11. The information required by paragraph AG10 shall include:

(a) the type of internal carbon pricing scheme, for example shadow prices for CapEx or research and development investment decision making, internal carbon fees or 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 carbon prices applied and why they are deemed relevant for their purpose of application; the undertaking may disclose the calculation methodology of the carbon prices, to which extent they have been set using scientific guidance and how the future development of carbon prices is related to science-based carbon pricing trajectories; and

(d) the approximate current year gross GHG emission volumes by Scope 1, 2 and 3 in metric tons of CO_2 equivalent covered by these schemes, as well as their share of the undertaking's overall GHG emissions in the respective Scope.

AG 12. If applicable, the undertaking shall briefly explain how the carbon prices used in internal carbon pricing schemes are compatible with those used in financial statements and financial planning particularly for the assessment of useful life and residual value of intangibles, property, plant and equipment, for the impairment of assets or for the fair value measurement of business acquisitions.

AG 13. The information may be presented by using the following table:

Types of internal carbon prices	Volume at stake (tCO_2eq)	Prices applied (€/tCO_2eq)	Perimeter description
CapEx shadow price			
R&D investment shadow price			
Internal carbon fee or fund			
Carbon prices for impairment testing			
Etc.			

Climate-related specific application guidance on ESRS 2 Disclosure Requirements IRO 1 and IRO 2 on materiality assessment

AG 14. The description of the process to identify and assess sustainability impacts, risks and opportunities shall include:

(a) impacts on climate change, in particular the undertaking's GHG emissions (ESRS E1 Disclosure Requirements 7 to 10);

(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, which may affect the undertaking's assets and business activities; and

ii. the assessment of how its assets and business activities may be exposed to these climate-related hazards, creating gross physical risks for the undertaking; and

(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, which may affect its assets and business activities; 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.

AG 15. When disclosing the information required under paragraph AG14 (a), the undertaking shall explain how it has as part of its due diligence process:

(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 materiality of the current and potential impacts on climate change, based on severity (scale, scope, remediability), likelihood or other criteria.

AG 16. The undertaking may introduce a link to the information provided under ESRS E1 Disclosure Requirement 1 (transition plan, in particular locked-in GHG emissions), ESRS E1 Disclosure Requirement 3 (climate-related targets) and ESRS E1 Disclosure Requirements 7 to 9 (Scope 1, 2 and 3 GHG emissions).

AG 17. When disclosing the information required under paragraph AG14 (b) on physical risks, 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 them;

(b) it has defined short-, 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;

(c) it has assessed the extent to which its assets and business activities may be exposed to the identified climate-related hazards, taking into consideration likelihood, magnitude and duration of the hazards; and

(d) the identification of climate-related hazards and assessment of exposure are informed by high emissions climate scenarios, for example based on IPCC SSP5-8.5 or relevant regional scenarios. For general requirements regarding climate-related scenario analysis see paragraphs AG19 to 21.

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	Cyclone, hurricane, typhoon	Drought	Avalanche
	Cold wave/frost	Storm (including blizzards, dust, and sandstorms)	Heavy precipitation (rain, hail, snow/ice)	Landslide
	Wildfire	Tornado	Flood (coastal, fluvial, pluvial, ground water)	Subsidence
			Glacial lake outburst	

AG 18. When disclosing the information required under paragraph AG14 (c) on transition risks and opportunities, the undertaking shall explain whether and how it has:

(a) identified transition events (see table with examples below) over the short-, medium- and long-term and screened whether its assets and business activities may be exposed to them; in the case of transition risks and opportunities, short-term relates up to 5 years from the reporting year, medium-term more than 5 to10 years and long-term to more than 10 years, but no later than 2050;

(b) assessed the extent to which its assets and business activities may be exposed to the identified transition events, taking into consideration likelihood, magnitude and duration of the transition events;

(c) informed the identification of transition events and 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 general requirements regarding climate-related scenario analysis see paragraphs AG19 to 21; 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

AG 19. When disclosing the information required under paragraphs AG14 (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, including:

(a) which scenarios were used, their sources and their alignment with state-of-the-art science;

(b) narrative, time horizons used, 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 they are relevant to the undertaking, such as 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).

AG 20. The undertaking may consider the 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, other recognised industry standards or EU, national, regional and local regulations.

AG 21. The undertaking shall briefly explain how the climate scenarios used are compatible with critical climate-related assumptions made in the financial statements.

Climate-related material impacts, risks and opportunities

AG 22. The undertaking shall disclose the outcome of its processes to identify and assess climate-related impacts, risks and opportunities, i.e., disclose separately its material impacts on climate change, material climate-related physical risks and transition risks and material climate-related opportunities. In addition, the undertaking shall describe the current and anticipated effects of these impacts, risks and opportunities on its value chain and where in its value chain material climate-related impacts, risks and opportunities are concentrated (for example, geographical areas, facilities or types of assets, inputs, outputs or distribution channels).

Policies, targets, action plans and resources

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

AG 23. Policies related to climate change mitigation and adaptation shall be disclosed separately as their objectives, people involved, actions and resources needed to implement them are different.

AG 24. 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 relates to stand-alone climate change mitigation policies as well as relevant policies on other matters that indirectly support climate change mitigation, such as training policies, procurement or supply chain policies, investment policies or product development policies, among others.

AG 25. 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 paragraph 16 relates to stand-alone climate change adaptation policies as well as relevant policies on other matters that indirectly support climate change adaptation, such as training policies, emergency or health and safety policies, among others.

AG 26. The undertaking's climate-related policies and actions may have positive or negative impacts on other environmental matters or people, in own operations, the value chain or beyond. The undertaking is encouraged to account for those impacts, whether they be intended or unintended, and disclose any material impacts under the respective topical ESRS.

Disclosure Requirement E1-3 – Measurable targets for climate change mitigation and adaptation

AG 27. When disclosing the information required under paragraph 24 (b), the undertaking shall specify for each target, the type, what it intends to achieve and how it is embedded in the undertaking's climate change mitigation policy, climate change adaptation policy or other related policies (e.g., procurement or supply chain policies, investment policies or product development policies, etc.). The undertaking shall explain how the targets are related to other information disclosed under this Standard.

AG 28. When disclosing the information required under paragraph 24 (c):

(a) for all types of climate-related targets, the undertaking shall explain the scope of the target, i.e., whether it relates to the whole undertaking or for example to specific subsidiaries, sites, countries or activities and whether it is limited to its own operations or also including (parts of) the value chain; and

(b) for GHG emission reduction targets, in the case of a combined target, the undertaking shall explain and state which share of the target relates to which GHG emission scope (1, 2 or 3). The undertaking shall state whether the Scope 2 GHG emissions included in the target are calculated on 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 ESRS E1 Disclosure Requirements 7 to 10, the undertaking shall disclose the percentage of the GHG emissions by Scope (1, 2, 3 and total) covered by the target. In case of GHG emission reduction targets of subsidiaries, the undertaking shall apply these requirements analogously at the level of the subsidiary.

AG 29. When disclosing the information required under paragraph 24 (d):

(a) for all types of climate-related targets, the undertaking shall briefly explain how it has ensured that the baseline value, against which the progress towards the target is measured, is representative in terms of activities covered and influences from external factors (e.g. temperature anomalies in a certain year influencing the amount of energy consumption and related GHG emissions), for example by the use of concepts such as normalisation. The undertaking may disclose a baseline value that is derived from a three-year average if this increases representativeness and allows a more faithful representation. The baseline value and year shall not be changed unless significant changes in the target or reporting boundary occur. In such a case, the undertaking shall explain how the new baseline value affects the target, its achievement and presentation of progress over time. To foster comparability, when setting new targets, the undertaking shall select a recent base year preceding the first reporting year of the new target period by a maximum of 3 years. For example, for 2030 as the target year and a target period between 2025 and 2030, the base year shall be selected between 2022 and 2025;

(b) for GHG emission reduction targets, the undertaking shall update its base year from 2025 onwards in five-year rolling periods, i.e., the base years to be applied are 2025, 2030, 2035, etc.; and

(c) when presenting climate-related targets, the undertaking may disclose progress made in the past 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 case of methodological differences, for example regarding target boundaries, the undertaking shall provide a brief explanation.

AG 30. When disclosing the information required under paragraph 24 (e):

(a) short-term relates to 1-5 years from the reporting year, medium-term more than 5 to 10 years and long-term to more than 10 years;

(b) for GHG emission reduction targets:

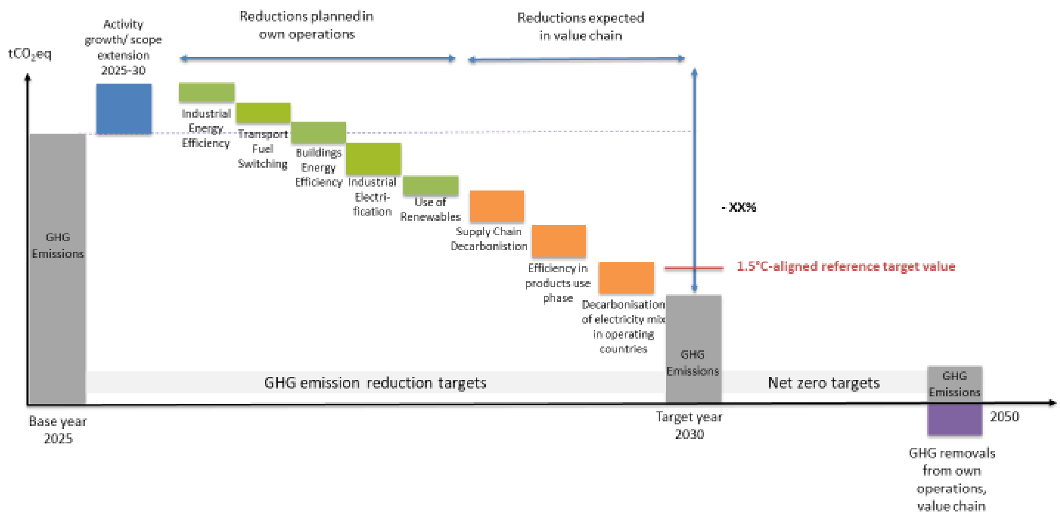
i. the undertaking shall present the information over the target period with reference to a cross-sector or, if available, sector-specific pathway for GHG emission reduction aligned with a 1.5°C climate scenario. For this purpose, the undertaking may calculate 1.5°C aligned reference target values against which its own targets or interim targets can be compared. The reference target value may be calculated by multiplying the GHG emissions in the base year with a cross-sector or sector-specific reduction factor as indicated in the following table.

	2030	2050
Cross-sector	-42%	-90%
Cement	…	…
Iron and Steel	…	…
Power	…	…
Residential buildings	…	…
Service building	…	…

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

In this exemplary calculation approach, the reference target value is dependent on the base year and baseline emissions of the undertaking's GHG emission reduction target. As an effect, the reference target value for undertakings with a later base year or higher baseline emissions may be less stringent as for undertakings that already have taken ambitious action to reduce GHG emissions in the past. Therefore, undertakings that have achieved GHG emissions reductions in line with a 1.5°C-aligned cross-sector or sector-specific pathway in the past, may adjust their baseline emissions accordingly to determine the reference target value. The past GHG emission reductions considered shall not precede the year 2020. The undertaking shall provide appropriate evidence on achieved past GHG emission reduction.

ii. the undertaking may present its GHG emission reduction targets as a table or graphical pathway or trajectory over time, including the contribution of different decarbonization levers (see AG31). The following figure and table provide examples:



	Base year (e.g., 2025)	2030	2035	…	Up to 2050
GHG emissions (tCO_2eq)	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		
Product change, phase out or substitution	-	-8	-		
Process change, phase out or substitution	-	-5	-3		
Etc.	-	-			

AG 31. When disclosing the information required under paragraph 24 (h), the undertaking shall explain:

(a) by reference to its climate change mitigation action plan, the decarbonisation levers and planned and foreseeable key actions it expects to significantly contribute to the achievement of its GHG emission reduction targets by Scope 1, Scope 2 and Scope 3 and their estimated extent in quantitative terms;

(b) whether it plans to adopt new technologies and the role of these to achieve its GHG emission reduction targets; and

(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.

Disclosure Requirements E1-4 – Climate change mitigation and adaptation action plans and resources

AG 32. Key actions undertaken to implement climate change mitigation and adaptation policies shall be disclosed in single or separated action plan(s).

AG 33. When disclosing the information required under paragraph 28 on action plans, the undertaking shall in addition to the provisions of ESRS 1 Disclosure Principle 3:

(a) explain how key actions are linked to its material climate-related risks and opportunities (ESRS 2 Disclosure Requirement SBM 4);

(b) disclose the achieved or expected GHG emission reductions of key actions in the climate change mitigation action plan;

(c) present the climate change mitigation actions by decarbonisation lever (ESRS E1 Disclosure Requirement 3);

(d) where relevant, present the climate change adaptation actions by type of adaptation solution (for example nature-based, engineering or technological solutions); and

(e) state significant adverse impacts on people or the environment that key actions may cause or contribute to, if any. The undertaking may consider potential unintended adverse impacts of climate change adaptation actions on climate change mitigation. For climate change adaptation actions, it may consider threats of maladaptation. The undertaking may refer to material impacts disclosed under other ESRS.

AG 34. When disclosing the information on resources, the undertaking shall, in addition to ESRS 1 Disclosure Principle 3, provide complementary explanatory information where the ability to implement the action plan depends on the resource availability and allocation. Access to finance and cost of capital may be critical for the implementation of action plans including for example acquisitions, demand or supply changes or significant R&D investments.

AG 35. The amounts of OpEx and CapEx disclosed shall be consistent with the key performance indicators and the CapEx plan required by Commission delegated regulation (EU) 2021/2178 under Commission delegated regulation (EU) 2021/2139. The undertaking may structure its action plan by economic activity to accommodate the OpEx and CapEx plan for taxonomy alignment. Potential differences between OpEx and CapEx disclosed under this [draft] Standard and under Regulation (EU) 2020/852 shall be explained. The information fulfilling the requirements of Regulation (EU) 2020/852 shall be identified as such.

Performance measurement

Disclosure Requirement E1-5 – Energy consumption and mix

Calculation rules

AG 36. When compiling the information required under paragraphs 31 and 33, the undertaking shall:

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

(b) provide the required information for the reporting year;

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

(d) ensure all quantitative energy-related information is reported in Mega-Watt-hours (MWh) in Lower Heating Value or net calorific value. If raw data is available in energy units other than MWh, such as Giga-Joules (GJ) or British Thermal Units (Btu), in volume units, such as cubic feet or gallons, or in mass units, such as kilograms (kg) or pounds (lb), it shall be converted to MWh using suitable conversion factors (see for example the Annex II of the Fifth Assessment report of IPCC). Conversion factors for fuels shall be made transparent and applied in a consistent manner;

(e) 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;

(f) avoid double counting of fuel consumption when disclosing self-generated energy consumption. If the undertaking generates electricity from a non-renewable or renewable fuel source and then consumes the generated electricity, the energy consumption shall be counted only once under fuel consumption;

(g) not offset energy consumption even if onsite generated energy is sold to and used by a third party;

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

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

(j) 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

(k) adopt a conservative approach when splitting the electricity, steam, heat or cooling between renewable and non-renewable sources based on the approach 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.).

AG 37. The Disclosure Requirement shall be presented following the table below.

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 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 sum of lines 8 to 10)		
Share of renewable sources in total energy consumption (%)		
Total energy consumption (MWh) (calculated as sum of lines 7 and 11)		

AG 38. The total energy consumption broken down between renewable and non-renewable energy consumption may be graphically presented in the sustainability statement, showing developments over time (e.g., in a pie or bar chart).

AG 39. If the undertaking has set energy reduction or energy efficiency targets that relate to its total energy consumption or total renewable energy consumption, it may include them in the graphical presentation of the total energy consumption.

Disclosure Requirement E1-6 – Energy intensity per net turnover

Calculation rules

AG 40. When compiling the information required under paragraph 35, the undertaking shall:

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

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

(b) express the total energy consumption in MWh and the net turnover in monetary unit (e.g., million Euros);

(c) include in the numerator and denominator only the fraction of the total final energy consumption and net turnover that can be associated with activities in 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);

(d) calculate the total energy consumption in line with ESRS E1 Disclosure Requirement 5;

(e) calculate the net turnover in line with the accounting principles applicable for financial statements.

AG 41. The quantitative information shall be presented in the following table.

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

Connectivity with financial reporting

AG 42. For the net turnover, the reconciliation to the most relevant amount presented in the financial statements shall be structured as follows:

(a) The undertaking shall include a cross-reference to the related line item in the financial statement.

(b) If the net turnover cannot be directly cross-referenced to a line item in the financial statement, the undertaking shall provide a quantitative reconciliation table between the net turnover per this ESRS E1 and the financial statements. The undertaking may use the table for reconciliation shown below:

Net turnover from activities in high climate impact sectors (ESRS E1 Disclosure Requirement 6 “Energy intensity”)	
Net turnover (other)	
Total net turnover (Financial statements)	

Disclosure Requirements E1-7, E1-8, E1-9, E1-10 – GHG emissions

Calculation rules

AG 43. When compiling the information for reporting of GHG emissions according to ESRS E1 Disclosure Requirements 7, 8, 9 and 10, the undertaking shall:

(a) consider the principles, requirements and guidance provided by the GHG Protocol Corporate Standard (version 2004) and GRI 305 (version 2016); it may consider the organisational environmental footprint method for compiling its GHG emissions (Commission Recommendation (EU) 2021/2279);

(b) consistently apply the reporting boundaries as defined in ESRS 1 and disclose and explain any exclusions. In case of significant boundary changes, the undertaking shall state those and explain their effect on comparability;

(c) include emissions of CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, NF_3;

(d) use the most recent GWP values published by the IPCC based on a 100-year time horizon to calculate CO_2 equivalent emissions of non-CO_2 gases; and

(e) disclose the methodologies and emissions factors used to calculate or measure GHG emissions, providing a reference or link to any calculation tools used.

AG 44. The undertaking may break down its GHG emissions in Scope 1, 2 and 3 by country, operating segments, economic activity, subsidiary, GHG (CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, NF_3) or source type (stationary combustion, mobile combustion, process emissions and fugitive emissions), as appropriate.

AG 45. When compiling the information required under paragraph 40 (a) for gross Scope 1 GHG emissions, the undertaking shall:

(a) calculate or measure GHG emissions from stationary combustion, mobile combustion, process emissions and fugitive emissions; use suitable activity data that, amongst others, include the non-renewable fuel consumption;

(b) use suitable and consistent emission factors;

(c) disclose biogenic emissions of CO_2 from the combustion or biodegradation of biomass separately from the Scope 1 GHG emissions, but include emissions of other types of GHG (in particular CH_4 and N_2O); and

(d) exclude any purchased, sold or transferred carbon credits or GHG allowances.

AG 46. When compiling the information required under paragraph 40 (b) for the share of Scope 1 GHG emissions under regulated emission trading schemes, the undertaking shall:

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

(b) not include other emissions than those of CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, NF_3;

(c) ensure the same accounting period for gross Scope 1 GHG emissions and GHG emissions regulated under the ETS; and

(d) calculate the share by using the following formula:

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

AG 47. When compiling the information required under paragraph 41 for gross Scope 2 GHG emissions, the undertaking shall:

(a) consider the principles and provisions of the GHG Protocol Scope 2 Guidance (version 2015);

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

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

(d) apply the location-based and market-based method to calculate Scope 2 GHG emissions;

(e) 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).

(f) Note: Market-based method quantifies Scope 2 GHG emissions based on GHG emissions emitted by the generators from which the reporter contractually purchases electricity bundled with instruments, or unbundled instruments on their own (GHG Protocol, “Scope 2 Guidance”, Glossary, 2015).

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

(h) exclude any purchased, sold or transferred carbon credits or GHG allowances from the calculation of Scope 2 GHG emissions; and

(i) adhere to the rules as set out in chapter 7.1 of the GHG Protocol Scope 2 Guidance (version 2015) and disclose the required information accordingly.

AG 48. When compiling the information required under paragraph 44 for gross Scope 3 GHG emissions, the undertaking shall:

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

(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 Scope 3 Standard using appropriate estimates;

(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;

(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) disclose for each significant Scope 3 GHG emissions category, the boundaries considered, the calculation methods for estimating the GHG emissions as well as if and which calculation tools were applied.

(i) avoid double counting with GHG emissions reported under Scope 1 or 2;

(j) disclose a list of Scope 3 GHG emissions categories included in and excluded from the inventory with a justification for excluded Scope 3 categories;

(k) disclose biogenic emissions of CO_2 from the combustion or biodegradation of biomass that occur in its value chain separately from the gross Scope 3 GHG emissions, include emissions of other types of GHG (such as CH_4 and N_2O), and emissions of CO_2 that occur in the life cycle of biomass other than from combustion or biodegradation (such as GHG emissions from processing or transporting biomass) in Scope 3; and

(l) exclude any purchased, sold or transferred carbon credits or GHG allowances from the calculation of Scope 3 GHG emissions.

AG 49. When compiling the information required under paragraph 47 for the total GHG emissions, the undertaking shall:

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

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

(b) disclose total GHG emissions under the location-based method for Scope 2 GHG emissions and under the market-based method.

AG 50. The quantitative information 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_2eq)								
Share of Scope 1 GHG emissions under regulated emission trading schemes (%)								
Scope 2 GHG emissions								
Gross location-based Scope 2 GHG emissions (tCO_2eq)								
Gross market-based Scope 2 GHG emissions (tCO_2eq)								
Scope 3 GHG emissions								
Total Gross indirect (Scope 3) GHG emissions (tCO_2eq)								
Upstream purchasing								
[Optional sub-category: Cloud computing and data centre services]								
Downstream sold products								
Goods transportation								
Travels								
Financial investments								
Total GHG emissions								
Total GHG emissions (location-based) (tCO_2eq)								
Total GHG emissions (market-based) (tCO_2eq)								

AG 51. The Scope 3 GHG emissions shall be presented by significant overarching Scope 3 categories as shown in the above table to highlight the major sources of emissions in the value chain. If deemed meaningful, the undertaking may, as a subset to the overarching Scope 3 category “upstream purchasing”, disclose the GHG emissions from purchased cloud computing and data centre services.

AG 52. The total GHG emissions shall be disclosed broken down by major countries (to highlight potential transition risks). Scope 3 GHG emissions may be excluded if data is not readily available. The number of countries used in the breakdown shall rely on the amount of the undertaking’s emissions in these countries in order to provide a faithful overview of where the emissions of the undertaking occur.

AG 53. The total GHG emissions shall be disclosed broken down by operating segments. Scope 3 GHG emissions may be excluded if data is not readily available.

AG 54. The total GHG emissions, broken down by Scope 1, 2 and 3 GHG emissions, can be graphically presented in the sustainability statement (e.g., as a bar or pie chart) showing the split of GHG emissions over the value chain (Upstream, Own operations, Transport, Downstream).

Disclosure Requirement E1-11 – GHG intensity per net turnover

Calculation Rules

AG 55. When disclosing the information required under paragraph 50, the undertaking shall:

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

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

(b) express the total GHG emissions in metric tonnes of CO_2eq and the net turnover in monetary unit (e.g., million Euros) and present the results for the market-based and location-based method;

(c) include in the denominator its overall net turnover;

(d) calculate the total GHG emissions as per ESRS E1 Disclosure Requirement 10; and

(e) calculate the net turnover in line with the provisions for financial statements.

AG 56. The quantitative information shall be presented by using the following table.

GHG intensity per net turnover	Comparative	N	% N / N-1
Total GHG emissions (location-based) per net turnover (tCO_2eq/Monetary unit)			
Total GHG emissions (market-based) per net turnover (tCO_2eq/Monetary unit)			

Connectivity with financial reporting

AG 57. For the net turnover, the reconciliation to the most relevant amount presented in the financial statements shall be structured as follows:

(a) The undertaking shall include a cross-reference to the related line item in the financial statement.

(b) If the net turnover cannot be directly cross-referenced to a line item in the financial statement, the undertaking shall provide a quantitative reconciliation table between the net turnover as required in the ESRS E1 Disclosure Requirement 11 “GHG intensity” and the financial statements. The undertaking may use the format of the table for reconciliation shown below:

Net turnover (ESRS E1 Disclosure Requirement 11 on “GHG intensity”)	
Net turnover (other)	
Total net turnover (Financial statements)	

Disclosure Requirement E1-12 – GHG removals in own operations and the value chain

AG 58. In addition to their GHG emission inventories, undertakings should provide transparency on how and to which extent they enhance natural sinks or apply technical solutions to remove GHGs from the atmosphere in their own operations and value chain. While generally agreed concepts and methodologies for accounting of GHG removals are still missing, this Standard aims to increase transparency on an undertaking’s efforts to remove GHGs from the atmosphere. GHG removals outside the value chain the undertaking supports through the purchase of carbon credits are subject to ESRS E1 Disclosure Requirement 13.

AG 59. In case the undertaking does not pursue activities to remove GHG from the atmosphere, it shall report zero.

Calculation rules

AG 60. When compiling the information required under paragraphs 53 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 carbon 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 ESRS E1 Disclosure Requirements 7 (Scope 1), 8 (Scope 2) or 9 (Scope 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 a counterbalance to the removals in the reporting period;

(g) describe the assumptions made, methodologies and frameworks applied for calculation of the amount of GHG removals; and

(h) consider nature-based solutions, which 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).

AG 61. The undertaking shall disclose GHG removals that occur in its own operations and those in its value chain separately. 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 GHG removals that may occur in its value chain but that it is not aware of.

AG 62. The quantitative information on GHG removals may be presented by using the following table.

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

…	-		
Total GHG removals in the value chain (tCO_2eq)			

Disclosure Requirement E1-13 – GHG mitigation projects financed through carbon credits

AG 63. Financing GHG emission reduction projects outside the undertaking's value chain by means of purchasing carbon credits that fulfil high quality standards can be a useful contribution to mitigate climate change. This [draft] Standard requires the undertaking to disclose, separately from the GHG emissions (ESRS E1 Disclosure Requirement 10) and GHG emission reduction targets (ESRS E1 Disclosure Requirement 3), whether it uses carbon credits. It also requires them to show to what extent and with regard to which quality criteria an undertaking uses those carbon credits.

AG 64. In case the undertaking does not purchase carbon-credits or did not cancel carbon credits in the reporting period, it shall report zero.

Calculation rules

AG 65. When compiling the information required under paragraphs 56 and 58, the undertaking shall:

(a) if applicable, explain the role of carbon credits in its climate change mitigation policy;

(b) not include carbon credits issued from GHG emission reduction projects within its value chain; the respective GHG emission reductions shall be accounted for under ESRS E1 Disclosure Requirement 8 (Scope 2) or 9 (Scope 3) at the time they occur;

(c) not include carbon credits from GHG removal projects within its value chain; the respective GHG removals may be accounted for under ESRS E1 Disclosure Requirement 12 at the time they occur;

(d) not disclose carbon credits as a counterbalance or offset for its GHG emissions under ESRS E1 Disclosure Requirements 7 to 10;

(e) not disclose carbon credits as a means to reach GHG emission reduction targets under ESRS E1 Disclosure Requirement 3; and

(f) calculate the amount of carbon credits to be cancelled in the future, as the sum of carbon credits in metric tonnes of CO_2eq over the duration of existing contractual agreements.

AG 66. The information may be presented by using the following tables.

Carbon credits cancelled in the reporting year	Comparative	N
Total (tCO_2eq)		
Share from removal projects (%)		
Share from reduction projects (%)		
Recognised quality standard 1 (%)		
Recognised quality standard 2 (%)		

Recognised quality standard 3 (%)		
…		
Share from projects within the European Union (%)		
Share of carbon credits that qualify as corresponding adjustments (%)		

Carbon credits planned to be cancelled in the future	Amount until [period]
Total (tCO_2eq)	

Optional Disclosure Requirement E1-14 – Avoided GHG emissions from products and services

AG 67. Accounting for an undertaking's Scope 1, 2 and 3 GHG emissions and for avoided emissions from products based on comparative assessments are complementary but fundamentally different concepts. Avoided emissions are understood as estimated GHG reductions of an undertaking's products in comparison to other products that fulfil an equivalent function or to a situation where the product does not exist (Note: the notion of "products" includes services) (cf. World Resources Institute, "Estimating and Reporting the Comparative Emissions Impacts of Products", 2019). This [draft] Standard requires undertakings to foremost disclose Scope 1, 2, and 3 emissions and related reduction targets. Comparative assessments shall neither take precedence over nor detract an undertaking in this regard. Comparative impacts shall not be used to adjust Scope 1, 2, and 3 emissions or claim GHG reduction target achievement. Given the persisting methodological challenges of accounting and reporting on avoided emissions, this Standard insists that undertakings rigorously disclose information on methodologies used and assumptions made.

Calculation rules

AG 68. When compiling the information required under paragraphs 59 and 61, the undertaking shall:

(a) in the absence of generally accepted accounting methodologies, consider the recommendations from the World Resource Institute Working Paper "Estimating and reporting the comparative emissions impacts of products" (WRI 2019). For quantification of life cycle GHG emissions of products the undertaking may apply ISO 14040:2006 and ISO 14044:2006 (life cycle assessment), ISO 14067:2018 (carbon footprint of products) or the product environmental footprint method (Commission Recommendation (EU) 2021/2279);

(b) use the following formulas to calculate avoided GHG emissions:

i. when using the attributional approach:

$$Avoided\ GHG\ emissions_{attributional} = life\ cycle\ emissions\ of\ reference\ product - life\ cycle\ emissions\ of\ assessed\ product$$

whereas total avoided GHG emissions are the sum of all products assessed;

Note: The attributional approach estimates the difference in total life cycle GHG emissions between an undertaking's product (assessed product) and some alternative product (reference product) that provides an equivalent function (based on WRI, "Estimating and Reporting the Comparative Emissions Impacts of Products", 2019).

ii. when using the consequential approach:

$$Avoided\ GHG\ emissions_{consequential} = emissions\ in\ baseline\ scenario - emissions\ in\ policy\ scenario$$

whereas total avoided GHG emissions are the sum of all products assessed;

Note: The consequential approach estimates the sum of all system-wide changes in GHG emissions or removals occurring because of the product (WRI, "Estimating and Reporting the Comparative Emissions Impacts of Products", 2019).

(c) disclose as part of the description of assumptions made and methodologies applied:

i. the percentage of the product(s), on which avoided emissions are disclosed, in terms of the undertaking's total product portfolio (for example by share of net turnover);

ii. whether attributional or consequential approaches have been used for the assessment;

iii. when using the attributional approach, the assessed and reference products, why they were selected, the life cycle GHG emissions of each, and which life cycle GHG emissions have been omitted, if at all;

iv. when using the consequential approach, the baseline and policy scenarios, why they were selected, the GHG emissions of each, and which GHG emissions have been omitted if at all;

v. if attribution to different entities in the undertaking's value chain is attempted, the attribution method and ratio;

vi. a quantitative estimate or qualitative description of the uncertainty of the results, as well as the range of results from sensitivity analyses for key parameters and assumptions; and

vii. explain why GHG reductions are additional, i.e., why they would not have occurred in the absence of the product sales to customers and demonstrate that the reference products (attributional approach) or the baseline (consequential method) are above the average market performance and exceed EU and Member states' regulatory requirements;

(d) the trade-offs with other environmental impacts, in the case that an undertaking's product has significant adverse impacts on other environmental media, such as on air, soil or water; and

(e) if applicable, explain the role of avoided GHG emission for its climate mitigation policy.

AG 69. The quantitative information shall be presented by using the following table.

Avoided GHG emissions from products and services	Comparative	N	% N / N-1
Estimated total avoided GHG emissions from products (tCO_2eq)			

Disclosure Requirement E1-15 –Potential financial effects from material physical risks

AG 70. Material climate-related physical risks may affect the financial position (owned assets) and performance (potential future increase/decrease in net turnover and costs due to business interruptions, increased supply prices, etc. resulting in potential margin erosions) of the undertaking. The purpose of this Disclosure Requirement is to provide transparency on the estimated potential financial effects of these material physical risks. Currently no commonly agreed methodology exists to assess or measure how climate-related transition risks and opportunities may affect the future financial position and performance of the undertaking. Therefore, the disclosure required by paragraphs 65 and 67 remains largely based on the exercise of judgement.

Calculation rules

AG 71. When disclosing the information required under paragraph 67, 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 relies on or is part of the process to determine material physical risk as described under AG14 (b). In particular, it shall explain how it has defined short-, 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.

AG 72. When preparing the information required under paragraph 67 (a), the undertaking shall:

(a) calculate the assets (monetary amount and percentage) at material physical risk with their carrying amount as of the balance sheet date, as a single amount or a range (including finance-lease / right-of-use assets); and

(b) calculate the share of assets at material physical risk taking their carrying amount as of the balance sheet date (including finance-lease / right-of-use assets) that is assessed by the planned climate change adaptation action plan(s) based on the information disclosed under ESRS E1 Disclosure Requirement 4.

AG 73. When compiling the information required under paragraph 67 (b), the undertaking may assess the share of net turnover from business activities at physical risk as a list of business activities, with their percentage of total net turnover, the risk factors (hazards and exposure) and, if possible, the magnitude of the potential financial effects in terms of margin erosion over the short-, medium- and long-term. Business activities may be divided by operating segments if the undertaking is required to disclose the contribution of margins by operational segments under IFRS 8 or based on local requirements for segment reporting.

AG 74. The undertaking shall disclose quantitative information unless it is impracticable to do so. In such case, it shall provide qualitative information.

Connectivity with financial reporting

AG 75. For potential future effects on total assets, the reconciliation to the most relevant amount presented in the financial statements shall be structured as follows:

(a) The undertaking shall include a cross-reference to the related line item in the financial statement.

(b) If it cannot be directly cross-referenced to a line item in the financial statement, the undertaking may provide a quantitative reconciliation table between the carrying amount of the assets as required in ESRS E1 Disclosure Requirement 15 on Potential financial effects from material physical risks and financial statements. The undertaking may use the format of the table for reconciliation shown below:

Carrying amount of assets at material physical risks (ESRS E1 Disclosure Requirement 15)	
Other assets	
Total assets (per balance sheet as of the balance sheet date)	

AG 76. For the financial datapoints (current year) related to the share of net turnover from business activities at material physical risk, the undertaking may include a reference to the related line item in the financial statement as for total assets.

AG 77. The undertaking shall include a statement of consistency illustrating the consistency of data and of assumptions made in sustainability reporting to assess the financial effects from material physical risks with the corresponding data and assumptions used for the financial statements (e.g., impairment of assets, useful life of assets, estimates and provisions).

AG 78. A reference to the relevant paragraphs of the financial statements shall be included in the statement of consistency. If the assumptions are not consistent, the statement of consistency should state that fact and explain the reason (e.g., the full financial implications of climate-related risks are still under assessment or are not deemed material).

Disclosure Requirement E1-16 – Potential financial effects from material transition risks

AG 79. Currently no commonly agreed methodology exists to assess or measure how climate-related transition risks and opportunities may affect the future financial position and performance of the undertaking. Therefore, the disclosure required by paragraphs 69 and 71 remains largely based on the exercise of judgement. In this context, the undertaking shall disclose an estimation of the potential financial effects of its material transition risks in relation to the potential future financial position in terms of its total assets. For users to gain a comprehensive picture, the undertaking may also disclose the effects of material transition risks on future potential liabilities and, in terms of the potential future financial performance, the effects on net turnover and costs. The undertaking shall in any case explain the methodologies applied and critical assumptions made.

Calculation rules

AG 80. When disclosing the information required under paragraph 71, 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 relies on or is part of the process to determine material transition risks, described under AG14 (c). In particular, it shall explain how it has considered short-, medium- and long-term time horizons in the assessment, where short-term relates to 1-5 years from the reporting year, medium-term to more than 5 up to 10 years and long-term to more than 10 years, but no later than 2050.

AG 81. When disclosing the information required under paragraph 71 (a) concerning the potential future effects on assets:

(a) the undertaking shall at least include an estimation of the amount of potentially stranded assets (in monetary amounts and percentage) from the reporting year until 2030 and 2050. Stranded assets are understood as active and 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, with high probability, deploy within the next five years. The amount may be expressed as a range of asset value based on different climate and policy scenarios, including a scenario aligned with limiting climate change to 1.5°C.

(b) the undertaking shall calculate the share of asset at material physical risk taking their carrying amount as of the balance sheet date (including finance-lease / right-of-use assets) addressed by the climate change mitigation action plan(s) based on the information disclosed under ESRS E1 Disclosure Requirement 4.

AG 82. When disclosing the information required under paragraph 71 (b) related to the potential future effects on liabilities:

(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, in particular, may disclose the potential future liabilities of the allocation plan over the period 2021-2030, including the number of quotas to be purchased yearly on the market (gap between estimated future emissions under various transition scenarios and free allocations that are known for the period 2021-2030) and the estimated yearly cost per ton to be purchased;

(c) undertakings disclosing volumes of carbon credits planned to be cancelled in the near future (ESRS E1 Disclosure Requirement 13) 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 unit) calculated as follows:

viii. monetised Scope 1 and 2 GHG emissions in the reporting year by the following formula:

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

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

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

x. 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 tonnes, hectares, m^3 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).

AG 83. 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 be completed by a description of the methodologies and definitions used by the undertaking.

AG 84. When compiling the information required under paragraph 71 (c), the undertaking may assess the share of net turnover from business activities at transition risks as a list of business activities with their percentage of current net turnover, the risk factors (events and exposure) and, when possible, the magnitude of the potential financial effects in terms of margin erosion over the short-, medium- and long-term. Business activities may be divided by operating segments if the undertaking is required to disclose the contribution of margins by operational segments under IFRS 8 or based on local requirements for segment reporting.

AG 85. The undertaking shall disclose quantitative information unless it is impracticable to do so. In such case, it shall provide qualitative information.

Connectivity with financial reporting

AG 86. For potential future effects on total assets (paragraph 71 (a)), the reconciliation to the most relevant amount presented in the financial statements shall be structured as follows:

(e) The undertaking should include a cross-reference to the related line item in the financial statement.

(f) If it cannot be directly cross-referenced to a line item in the financial statement, the undertaking should provide a quantitative reconciliation table between the carrying amount of assets as required in ESRS E1 Disclosure Requirement 16. The undertaking may use the format of the table for reconciliation shown below:

Carrying amount of assets at material transition risk (ESRS E1 Disclosure Requirement 16)	
Other assets	
Total asset (per balance sheet as of the balance sheet date)	

AG 87. For potential future effects on liabilities (paragraph 71 (b)), if applicable, the undertaking shall make a reference to the description of the emission trading schemes in the financial statements.

AG 88. For the financial datapoints (current year) related to the share of net turnovers from business activities at transition risk, the undertaking may include a reference to the related line item in the financial statement as for total assets.

AG 89. The undertaking shall include a statement of consistency illustrating the consistency of data and of assumptions made in sustainability reporting to assess the financial effects from material transition risks with the corresponding data and assumptions used for the financial statements (e.g., impairment of assets, useful life of assets, estimates and provisions).

AG 90. A reference to the relevant paragraphs of the financial statements shall be included in the statement of consistency. If the assumptions are not consistent, the statement of consistency shall state that fact and explain the reason (e.g., the full financial implications of climate-related risks are still under assessment or are not deemed material).

Disclosure Requirement E1-17 – Potential financial effects from climate-related opportunities

AG 91. If the undertaking has not identified material climate-related opportunities, it shall state so. When disclosing the information under paragraph 75 (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 at least the scope of the assessment, critical assumptions and limitations, and whether and how scenario analysis was applied.

AG 92. When disclosing the information required under paragraph 75 (b), the undertaking shall explain how it has assessed the market size for low carbon products and services or adaptation solutions, including at least the scope of the assessment, the time horizon, critical assumptions and limitations and to what extend this market is accessible to the undertaking. The information on the market size may be put in perspective to the current taxonomy-aligned turnover disclosed under the provisions of the Regulation (EU) 2020/852.

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