

[Draft] ESRS for listed SMEs

Section 4

STATUS OF THIS DRAFT

Editorial review in progress. Still pending:

- Inclusion of a hyperlink after each requirement referencing to the AR that cover that specific requirement
- Check drafting conventions (italics)
- Final check of internal references to paragraph numbers including references to other sections

Text highlighted in **turquoise** illustrates the changes made after the discussion held at SR TEG on 24 of October.

DISCLAIMER

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

- *Appendix A: Application Requirements,*

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Objective

1. ~~The objective of the Environmental Disclosures in this [draft] Standard is to provide users of sustainability statements with an understanding of the undertaking's environmental impacts and dependencies and material risks arising from those, the actions taken to address those impacts and risks, strategies for sustainability, and the short-, medium- and long-term financial effects of the material risks. enable users of sustainability statements to understand:~~
- ~~(a) how the undertaking, actually or potentially, negatively impacts the following environmental topics:~~
 - ~~i. climate change (E1);~~
 - ~~ii. pollution of air, water and soil (E2);~~
 - ~~iii. water and marine resources (E3);~~
 - ~~iv. biodiversity and ecosystems (E4);~~
 - ~~v. resource use and circular economy (E5);~~
 - ~~(b) the plans and capacity of the undertaking to adapt its strategy and business model(s) in line with the transition to a sustainable economy and international environmental agreements, goals and initiatives, including but not limited to:~~
 - ~~vi. the Paris Agreement (or an updated international agreement on climate change) and the objective of limiting global warming to 1.5°C (E1);~~
 - ~~vii. alignment with the European Green Deal's ambitions for prevention, control and elimination of pollution and the objective of creating a toxin-free environment with zero pollution in support of the EU Action Plan "Towards a Zero Pollution for Air, Water and Soil" (E2);~~
 - ~~viii. alignment with the European Green Deal's ambitions for clean water and the sustainability of the blue economy and fisheries sectors considering the EU Water Framework Directive and the EU Marine Strategy Framework Directive and the EU Maritime Spatial Planning Directive (E3);~~
 - ~~ix. the Kunming-Montreal Global Biodiversity Framework and its goals and targets, the EU Biodiversity Strategy for 2030, the Directive 2009/147/EC of the European Parliament and of the Council and Council Directive 92/43/EEC (EU Birds and Habitats Directives), the Directive 2008/56/EC of the European Parliament and of the Council (Marine Strategy Framework Directive) (E4);~~
 - ~~x. alignment with circular economy principles, including but not limited to minimising waste, maintaining the value of products, materials and other resources at their highest value and enhancing their efficient use in production and consumption, based on the EU Circular Economy Action Plan, the Waste Framework directive and the EU industrial strategy (E5).~~
 - ~~(c) any actions taken by the undertaking, and the result of such actions to prevent, mitigate or remediate potential negative impacts on environmental topics, including:~~
 - ~~xi. to reduce GHG emissions and increase energy efficiency (E1);~~
 - ~~xii. to prevent, control and reduce pollution of air, water and soil (E2);~~
 - ~~xiii. to reduce water consumption and to protect water and marine resources (E3);~~
 - ~~xiv. to protect and restore biodiversity and ecosystems (E4); and~~
 - ~~xv. to prevent and decrease resource depletion, increase resource efficiency and decouple economic growth from use of materials (E5).~~
 - ~~(d) the nature, type and extent of the undertaking's material risks arising from the undertaking's impacts and dependencies on environmental topics, and how the undertaking manages them; and~~
 - ~~(e) the short-, medium- and long-term financial effects on the undertaking of material risks arising from the undertaking's environmental impacts and dependencies.~~
- 2.1. ~~This [draft] Section 4 covers Disclosure Requirements related to the following sustainability matters as per AR 23, Appendix A, Section 1 of this [draft] standard.~~

- ~~3.2.~~ The objectives in paragraph 1 and the metrics disclosure requirements under Section 4 E1 to E5 shall be read in conjunction with Section 2 and 3 of this [draft], General Disclosures.
- ~~4.3.~~ The undertaking shall apply the requirements in this Section, when it concludes that the corresponding topic is material (according to chapter 3.3 *Double materiality*, 3.4 *Impact materiality* and 3.5 *Financial materiality* of Section 1). In determining which information in this section should be included, the undertaking shall apply:
- ~~(f)(a)~~ the provisions in paragraph 42 of Section 1 for metrics; and
 - ~~(g)(b)~~ the provisions in paragraph 38 of Section 1, which support also the determination of the details of narrative disclosure to be reported.
- ~~4.~~ As defined in Section 1, Chapter 1.3 *Terminological conventions*, in this Section there are some information to be disclosed only in some defined circumstances described in the related requirement.
- ~~5.~~ The Disclosure Requirements under E1 to E5 of this Section of the [draft] Standard take into account the requirements of related EU legislation and regulation (i.e., EU Climate Law, Regulation (EU) 2019/2088 (SFDR), Regulation (EU) 2020/852 (the EU Taxonomy), Commission Delegated Regulation (EU) 2020/1818 (Climate Benchmark Regulation), and EBA Pillar 3 ESG risk disclosure requirements).
- ~~— Disclosure X – Geolocation~~
- ~~— The undertaking shall disclose the geolocation of sites owned, leased, or managed.~~
- ~~5.~~

Climate Change – Disclosure Requirements (E1)

~~Disclosure Requirements – Climate Change (E1)~~

Disclosure Requirement E1-1– Energy consumption and mix

- ~~— The undertaking shall provide information on its energy consumption and mix.~~
- ~~6.~~ The objective of this Disclosure Requirement is to provide an understanding of the undertaking's total energy consumption in absolute value, ~~improvement in energy efficiency, exposure to coal, oil and gas-related activities,~~ and the share of **renewable energy** in its overall energy mix.
- ~~7.~~ The ~~disclosure required by paragraph 6~~ ~~undertaking~~ shall ~~all included~~ ~~disclose~~ the total energy consumption in MWh related to its own operations and the share (%) from renewable sources ~~%~~ ~~disaggregated by:~~
- ~~8.7.~~ ~~total energy consumption from non-renewable fossil sources~~¹;
- ~~8.~~ Where the undertaking is also an energy producer, it shall disaggregate and disclose separately its non-renewable energy production and renewable energy production in MWh.
- ~~9.~~ The undertaking may disclose the breakdown of energy consumption by type of non-renewable sources of energy² (such as from fossil sources).
- ~~(h)~~ ~~total energy consumption from nuclear sources;~~
- ~~(i)~~ ~~of total energy consumption from renewable sources;~~ and

¹ This information supports the information needs of financial market participants subject to Regulation (EU) 2019/2088 as reflecting a mandatory indicator related to principal adverse impacts as set out by indicator #5 in Table 1 of Annex 1 of the related Delegated Regulation with regard to disclosure rules on sustainable investments (“Share of non-renewable energy consumption and production”).

² The breakdown serves as a reference for an additional indicator related to principal adverse impacts as set out by indicator #5 in Table 2 of the same Annex (“Breakdown of energy consumption by type of non-renewable sources of energy”).

- ~~(f) Where applicable, the undertaking is also an energy producer, the undertaking shall disaggregate and disclose separately its non-renewable energy production and renewable energy production in MWh.~~

Energy intensity based on net revenue³

10. The undertaking shall provide information on the energy intensity (total energy consumption per net revenue) associated with activities in **high climate impact sectors**⁴. The disclosure on energy intensity shall only be derived from the total energy consumption and net revenue from activities in **high climate impact sectors**.
11. The undertaking shall specify the **high climate impact sectors** that are used to determine the energy intensity required by paragraph ~~8109~~.
- ~~12. The undertaking shall disclose the reconciliation to the relevant line item or notes in the financial statements of the net revenue amount from activities in high climate impact sectors (the denominator in the calculation of the energy intensity required by paragraph 9). If it is not possible to provide a reconciliation after making reasonable efforts to do so, the undertaking shall provide an explanation of where in the financial statements the net revenue amount from activities in high climate impact sectors can be found.⁵~~

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

- ~~12. The objective of the Disclosure Requirement is to provide an understanding of the direct (Scope 1) and indirect (Scope 2 and 3) impacts of the undertaking on climate change, measured as its GHG emissions to the atmosphere.~~
13. The undertaking shall disclose its⁶:
- ~~(k)(c) gross Scope 1 GHG emissions in metric tonnes of CO₂eq;~~
 - ~~(l)(d) gross location-based Scope 2 GHG emissions in metric tonnes of CO₂eq and, if applicable, the gross market-based Scope 2 GHG emissions in metric tonnes of CO₂eq;~~
 - ~~(m)(e) if the undertaking is active in high climate impact sectors, the gross GHG emissions of each significant Scope 3 category, in metric tonnes of CO₂eq;⁷; and~~
 - ~~(n)(f) total GHG emissions, as the sum of Scope 1, Scope 2 (using the location-based method) and the significant Scope 3 GHG emissions required by paragraphs (a) to (c)~~

GHG Intensity based on net revenue⁷

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

³ This information supports the information needs of financial market participants subject to Regulation (EU) 2019/2088 as reflecting a mandatory indicator related to principal adverse impacts as set out by indicator #6 in Table 1 of Annex 1 of the related Delegated Regulation with regard to disclosure rules on sustainable investments (“Energy consumption intensity per high impact climate sector”).

⁴ High climate impact sectors are those listed in NACE Sections A to H and Section L (as defined in Commission Delegated Regulation (EU) 2022/1288)

~~⁵ The undertaking may omit the reconciliation with the relevant line item or notes in the financial statements of the net revenue amount from activities in high climate impact sectors information for the first year of preparation of its sustainability statement.~~

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

~~⁷ Undertakings or groups not exceeding on their balance sheet dates the average number of 50 employees during the financial year (on a consolidated basis where applicable) may omit the datapoints on Scope 3 emissions and total GHG emissions for the first year of preparation of their sustainability statement.~~

⁷ This information supports the information needs of financial market participants subject to Regulation (EU) 2019/2088 because it is derived from a mandatory indicator related to principal adverse impacts as set out by indicator #3 in Table I of Annex I of Commission Delegated Regulation (EU) 2022/1288 with regard to disclosure rules on sustainable investments (“GHG intensity of investee companies”). This information is aligned with Commission Delegated Regulation (EU) 2020/1818 (Climate benchmark Regulation), Article 8 (1).

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

~~15.~~ The objective of this Disclosure Requirement is to provide an understanding:

~~15. of the undertaking's actions to permanently remove GHG from the atmosphere;~~

~~— of the extent and quality of carbon credits the undertaking has purchased or intends to purchase from the voluntary market, potentially for supporting its GHG neutrality claims (as stated in paragraph 16);~~

~~16.~~ If applicable, the undertaking has developed GHG removals and storage projects within its own operations, or contributed to in its upstream and downstream value chain, it shall disclose:

~~16. the total amount of CO₂eq associated with these projects GHG removals and storage projects within its own operations, as well as the calculation assumptions, methodologies and frameworks applied by the undertaking~~

~~— carbon credits for GHG emission reductions or removals outside its value chain that are verified against recognised quality standards and cancelled in the reporting period;~~

~~17. In the case where the undertaking has made public claims of GHG neutrality that involve the use of carbon credits, it may explain:~~

~~(a) Whether and how these claims are accompanied by GHG **emission reduction targets** as required by Section 2 DR 12 (IR-4);~~

~~(o) whether and how these claims and the reliance on carbon credits neither impede nor reduce the achievement of its GHG emission reduction **targets**⁸, or, if applicable, its net zero target; and~~

~~(p) the credibility and integrity of the **carbon credits** used, including by reference to **recognised quality standards**.~~

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

~~The objective of this Disclosure Requirement related to anticipated financial effects due to material physical and transition risks is to provide an understanding of how these risks have (or could reasonably be expected to have) a material influence on the undertaking's financial position, financial performance and cash flows, over the short, medium and long term.~~

~~The undertaking shall disclose its:~~

~~(a) whether it has identified climate-related hazards and transition events anticipated financial effects from material physical risks;~~

~~— if so, how it has assessed the vulnerability of its assets, activities and value chain to these hazards and transition events, creating gross climate-related risks, with the time horizons; and~~

~~(g) Whether it has undertaken climate change adaptation actions anticipated financial effects from material transition risks.~~

~~— For the significant assets affected by The information required by paragraph 29 is in addition to the information on the current **financial effects** required under ESRS Section 2 SBM-3 paragraph 35 (c). The objective of this Disclosure Requirement related to **anticipated financial effects** due to material **physical risks, the undertaking shall disclose:**~~

~~— the insurance coverages; and~~

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

- ~~— the breakdown of the undertaking's carrying value of its real estate assets by energy efficiency classes as well as the energy performance certificates.~~
- ~~— and **transition risks** is to provide an understanding of how these risks have (or could reasonably be expected to have) a material influence on the undertaking's financial position, financial performance and cash flows, over the short-, medium- and long-term. If the undertaking uses **scenario analysis** to conduct resilience analysis, the results of such analysis should inform the assessment of anticipated financial effects from material physical and transition risks.~~
- ~~— The undertaking shall disclose the following percentages of its total vehicle fleet: percentage of the total fleet vehicles, by type of vehicle, related to the reporting period that:~~
- ~~— Percentage of total vehicle fleet that are classified as zero-emission vehicles (ZEV) or ICE, plug-in hybrid electric vehicles or hybrid vehicles; and~~
- ~~18. The distribution of its total vehicle fleet compliance by EURO standard, expressed as percentages of fleet that comply with each EURO standards (1, EURO 1, 2, 3, 4, 5, 6 and following standards).~~
- ~~19. The undertaking may disclose its of **anticipated financial effects** that the from material **physical and transition risks** may have on its business operations and whether the undertaking determines that the risk is high/medium/low required by paragraph 29 (a) shall include⁹:~~
 - ~~(a) the monetary amount and proportion (percentage) of assets at material physical risk over the short-, medium- and long-term before considering **climate change adaptation actions**; with the monetary amounts of these assets disaggregated by acute and chronic physical risk¹⁰;~~
 - ~~(b) the proportion of assets at material physical risk addressed by the **climate change adaptation actions**, only if such actions are implemented;~~
 - ~~(c) the location of significant assets at material physical risk¹¹; and~~
 - ~~(d) the monetary amount and proportion (percentage) of net revenue from its business activities at material physical risk over the short-, medium- and long-term.~~
- ~~20. The disclosure of **anticipated financial effects** from material **transition risks** required by paragraph 29 (b) shall include:~~
 - ~~(a) the monetary amount and proportion (percentage) of assets at material transition risk over the short-, medium- and long-term before considering **climate mitigation actions**;~~
 - ~~(f) the proportion of assets at material transition risk addressed by the **climate change mitigation actions**, only if such actions are implemented;~~
 - ~~(s) a breakdown of the carrying value of its real estate assets by energy efficiency classes¹²;~~
 - ~~(t) if applicable, liabilities that may have to be recognised in financial statements over the short-, medium- and long-term; and~~
 - ~~(u) the monetary amount and proportion (percentage) of net revenue from its business activities at material transition risk over the short-, medium- and long-term including, where relevant, the net revenue from the undertaking's customers operating in coal, oil and gas-related activities. The undertaking may use ranges instead of a single amount.~~

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

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

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

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

- ~~21. The undertaking shall disclose which relevant line items or notes in the financial statements are affected by significant amounts of the assets and net revenue at material **physical risk** (as required by paragraph 31) and by significant amounts of the assets, liabilities, and net revenue at material transition risk (as required by paragraph 32).~~
- ~~22. The undertaking may disclose its potential to pursue material climate-related **opportunities**, to enable an understanding of how the undertaking may financially benefit from material climate-related opportunities. This disclosure is complementary to the key performance indicators to be disclosed in accordance with Commission Delegated Regulation (EU) 2021/2178.~~
- ~~23. For the disclosure of potential to pursue climate-related **opportunities**, the undertaking may consider¹³:~~
- ~~(a) its expected cost savings from **climate change mitigation** and adaptation **actions**; and~~
- ~~the potential market size or expected changes to net revenue from low-carbon products and services or adaptation solutions to which the undertaking has or may have access.~~

Pollution – Disclosure Requirements (E2)

Disclosure Requirements – Pollution (E2)

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

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

~~24.17. The objective of this Disclosure Requirement is to provide an understanding of the undertaking's **pollutants emissions** to air, water and soil in its own operations ~~and of~~ its generation and use of microplastics and production, use, distribution, commercialisation and import/export of substances of concern and substances of very high concern on their own, in mixtures or in articles.~~

~~25.18. The undertaking shall disclose the amounts of:~~

~~(a)(g) each pollutant emitted to air, **water** and **soil** listed in Annex II of Regulation (EC) No 166/2006~~2024/1244~~ of the European Parliament and of the Council¹⁴ (**Industrial Emissions Portal "IEPR" Regulation**~~European Pollutant Release and Transfer Register "E-PRTR Regulation"~~) for which the applicable threshold value at facility level is exceeded, with the exception of emissions of **GHGs** which are disclosed in accordance with ~~ESRS LSME ED-E1~~ Climate Change¹⁵;~~

~~(a) microplastics generated or used by the undertaking, including in a separate breakdown, the downstream or unintentional generation of microplastics from plastics by produced~~

¹³ This information is aligned with the Commission Delegated Regulation (EU) 2020/1816 (Climate Benchmark Regulation), Annex II.

¹⁴ Regulation (EC) No 166/2006 of the European Parliament and of the Council of 18 January 2006 concerning the establishment of a European Pollutant Release and Transfer Register and amending Council Directives 91/689/EEC and 96/61/EC (OJ L 033 4.2.2006, p. 1) Regulation (EU) 2024/1244 of the European Parliament and of the Council of 24 April 2024 on reporting of environmental data from industrial installations, establishing an Industrial Emissions Portal and repealing Regulation (EC) No 166/2006 (Text with EEA relevance).

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

~~downstream (i.e. unintentionally produced when larger pieces of plastics like car tires or synthetic textiles wear and tear) generated or used by the undertaking;~~

~~—~~

~~— the total amounts -amounts- of substances of concern (SOC) that are generated or used during the production or that are procured, and the total amounts of substances of concern that leave its facilities as emissions, as products, or as part of products or services -split into main hazard classes of substances of concern. In cases where substances of concern are also~~

~~(b) if the undertaking's substances in fall within the scope of specific regulations and legal frameworks, such as Regulation (EC) No 1907/2006, total amounts disclosed under letter c) includes substances of very high concern, - applicable, the undertaking shall present information on substances of very high concern (SVHC), the undertaking shall present a breakdown of the amounts with respecting to SVHC -them separately from paragraph (f)- the information for the total amount of substances of very high concern.~~



~~26. The undertaking shall may put its disclosure into context and describe the measurement methodologies and the process(es) to collect data for pollution-related accounting and reporting, including the type of data needed and the information sources.:~~

~~— the changes over time,~~

~~— the measurement methodologies; and~~

~~— the process(es) to collect data for pollution-related accounting and reporting, including the type of data needed and the information sources.~~

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

~~— The undertaking shall disclose, if applicable, information on the production, use, distribution, commercialisation and import/export of substances of concern and substances of very high concern on their own, in mixtures or in articles.~~

~~27. The objective of this Disclosure Requirement is to enable an understanding of the impact of the undertaking on health and the environment through the production, use, distribution, commercialisation and import/export of substances of concern and through substances of very high concern on their own, in mixtures or in articles. It is also to enable an understanding of the undertaking's material risks, including exposure to those substances and risks arising from changes in regulations.~~

~~28. The disclosure required by paragraph 40 shall include, if applicable, the total amounts of substances of concern that are generated or used during the production or that are procured, and the total amounts of substances of concern that leave its facilities as emissions, as products, or as part of products or services split into main hazard classes of substances of concern.~~

~~29. The undertaking shall present separately the information for the total amount of substances of very high concern, if applicable.~~

Water and Marine Resources - Disclosure Requirements (E3)

Disclosure Requirements-Water and Marine Resources (E3)

Disclosure Requirement E3-1 – Water consumption

~~30. The undertaking shall disclose information on its water consumption performance related to its material impacts and risks.~~

~~31.19. The objective of this Disclosure Requirement is to provide an understanding of the undertaking's **water consumption**.~~

~~32. If the undertaking has production processes in place which significantly consume^[obj] of water (such as thermal energy processes like drying or power production; production of goods, agricultural irrigation, etc), it shall disclose The undertaking shall disclose required by~~

paragraph 44 relates information on water consumption performance to in its own operations, and shall include:

20.

~~(v) the total water consumption in m³; if applicable, total water consumption in m³;~~

~~(a)~~

~~(w) if applicable, total water consumption in m³ in areas at material water risk, including areas of high-water stress;~~

~~(x) if applicable, total water recycled and reused in m³; 16~~

~~(y) if applicable, total water stored and changes in storage in m³;~~

~~(a)(b) any contextual information necessary regarding points (a) and to (d), including the water basins' water quality and quantity, how the data have been compiled, such as any standards, methodologies, and assumptions used, including whether the information is calculated, estimated, modelled, or sourced from direct measurements, and the approach taken for this, such as of the use of any sector-specific sectors.~~

~~— The undertaking may provide any contextual information necessary regarding paragraph 38 points (a) to (d), including the water basins' water quality and quantity, how the data have been compiled, such as any standards, methodologies, and assumptions used, including whether the information is calculated, estimated, modelled, or sourced from direct measurements, and the approach taken for this, such as of the use of any sector-specific factors.~~

~~— If the undertaking assesses that disclosure requirements on water consumption in paragraph 38 (a) and (b) are not applicable, it shall may disclose its total **water withdrawal**, i.e., the amount of water drawn into the boundaries of the organisation (or facility).~~

~~33-21. The undertaking shall may provide information on its **water intensity**: total **water consumption** in its own operations in m³ per million EUR net revenue^[17].~~

~~34. Small and non-complex credit institutions (see Section 1 paragraph 2b)) may replace net revenue with a different financial indicator, until a sectoral standard is established.~~

Biodiversity and ecosystems – Disclosure Requirements (E4)

Disclosure Requirements-Biodiversity and ecosystems (E4)

Disclosure Requirement E4-1 – Impact metrics related to biodiversity and ecosystems change^[18]

~~35. The undertaking shall report metrics related to its material impacts on biodiversity and ecosystems.¹⁹~~

~~16 This information supports the information needs of financial market participants subject to Regulation (EU) 2019/2088 as reflecting an additional indicator related to principal adverse impacts as set out by indicator #6.2 in Table 2 of Annex 1 of the related Delegated Regulation regarding disclosure rules on sustainable investments (“Water usage and recycling”, 2- Weighted average percentage of water recycled and reused by investee companies).~~

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

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

~~Undertakings or groups not exceeding on their balance sheet dates the average number of 50 employees during the financial year (on a consolidated basis where applicable) may omit the information specified in the disclosure requirements of Section 3 and 4 related to All disclosure~~

~~36.22. The objective of this Disclosure Requirement is to enable an understanding of the performance of the undertaking against *impacts* identified as material in the *materiality assessment on biodiversity and ecosystems change* and an understanding of how the undertaking's business model is in line with the EU Biodiversity Strategy for 2030 (to end biodiversity loss by 2030).~~

~~37.23. If the undertaking has identified owned, leased or managed *sites* located in or near *biodiversity-sensitive areas* which are negatively affected (see [paragraph 19 \(a\) in ESRS E4 Section 2 AR 41](#)) by the activity of those sites, the undertaking shall disclose the number and area (in hectares) of sites in or near these *protected areas* or key *biodiversity* areas.~~

~~38. If the undertaking has identified material *impacts* with regards to land-use change, or impacts on the extent and condition of *ecosystems*, it may also disclose their land-use based on a Life Cycle Assessment.~~

~~39.24. If the undertaking has concluded that it directly contributes to *impact drivers* of *biodiversity loss* such as *land-use change, freshwater-use change and/or sea-use change, water-use change and/ or sea-use change*, it the undertaking shall shall disclose relevant metrics. For that purpose the undertaking may consider selecting -metrics related to *land-use change, freshwater-use change and/ or sea-use change* based on ESRS E4 [paragraph 38](#) or land use metrics relate to E4 Application Requirement 34. The undertaking shall consider its own operations and may disclose metrics that measure:~~

~~40. If the undertaking has concluded that it *has has direct* material impacts on biodiversity, such as impacts on the state of species, impacts on the extent and condition of ecosystems or impacts on ecosystems services *to which it has directly contributed to*, it may report *metrics* it considers relevant, such as the ones in ESRS E4 paragraph 40 and 41.~~

~~(z) the conversion over time (e.g., 1 or 5 years) of land cover (e.g., deforestation or mining);~~

~~(aa) changes over time (e.g., 1 or 5 years) in the management of the ecosystem (e.g., through the intensification of agricultural management, or the application of better management practices or forestry harvesting);~~

~~(bb) changes in the spatial configuration of the landscape (e.g., fragmentation of habitats, changes in ecosystem connectivity);~~

~~(cc) changes in ecosystem structural connectivity (e.g., habitat permeability based on physical features and arrangements of habitat patches); and~~

~~(dd) the functional connectivity (e.g., how well genes or individuals move through land, freshwater and seascape).~~

~~41. The undertaking may disclose additional metrics related to the introduction of invasive alien species or the ecosystem condition and extent.~~

~~25.~~

Resource use and Circular **E**economy- – Disclosure Requirements (E5)

Disclosure Requirements- Resource use and Circular Economy (E5)

Disclosure Requirement E5-1 – Resource inflows

~~42. The undertaking shall disclose information on its resource inflows related to its material impacts and risks in the undertaking's own operations and along the value chain.~~

~~43.26. The objective of this Disclosure Requirement is to enable an understanding of the impacts and risks originating from the resource use in the undertaking's own operations and value chain.~~

~~27. When anThe undertaking assesses that resource inflows is a material sustainability matter, it shall disclose:~~

~~requirements related to Biodiversity and ecosystems for the first two years of preparation of their sustainability statement.~~

~~(ee)~~ a description of its material impacts and risks originating from resource inflows used in the undertaking's own operations and along its upstream value chain; -

~~(a)~~

~~44. When resource inflows are a material sustainability matter, if the undertaking operates manufacturing, construction and/or packaging processes, the undertaking shall disclose for its own operations:~~

~~(a) the percentage of its expenditure on resource inflows to own operations that are considered material;~~

~~(ff) the annual mass-flow of key relevant materials used for its own operations, including the percentage of biological materials (and biofuels used for non-energy purposes) used to manufacture the undertaking's products and services (including packaging); and the percentage of biological materials that are sustainability certified as well as information on the certification scheme, and;~~

~~(b)~~

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

~~— annual mass flow of relevant materials used for its own operations, including percentage of biomaterials~~

~~45.(c) the percentage of secondary material (recycled or reused) used as inflow. the percentage of secondary material (recycled or reused) used as inflow.~~

~~46. The undertaking shall provide information on the methodologies used to calculate the data. It shall specify whether the data is sourced from direct measurement or estimations, and disclose the key assumptions used.~~

Disclosure Requirement E5-2 – Resource outflows

~~47-28.~~ The objective of this Disclosure Requirements is to understand of how the undertaking contributes to **circular economy** through ~~its product and material design in line with **circular economy** principles, as well as the undertaking's sits –waste reduction and **waste management** strategy.~~

Products and materials

~~48-29.~~ The undertaking shall disclose information on its material resource outflows including a description of the key products and materials that come out of the undertaking's production process that are designed along circular economy principles.

~~49. The undertaking shall disclose the percentage of its products and services that are designed to be:~~

~~(gg) repairable and **reused**; and~~

~~(hh) recycled.~~

Waste

~~30. The undertaking shall disclose:~~

~~(a) the total annual generation of waste broken down by type (non-hazardous and hazardous);~~

~~(b) the total annual waste diverted to recycling or reuse.~~

~~50. The undertaking shall disclose the total amount of **waste** generated in its own operations, as well as ~~the undertaking may also disclose the percentage of non-recycled waste (by weight and on a wet basis)~~²⁰.~~

~~51. The undertaking shall also disclose the total amount of radioactive waste generated by the undertaking, where radioactive waste is defined in Article 3(7) of Council Directive 2011/70/Euratom²¹. The undertaking shall disclose the total amount of hazardous waste by: ~~The undertaking shall disclose the total amount of hazardous waste generated, which includes any waste with hazardous properties as listed in Annex III of Directive 2008/98/EC, and including any radioactive waste. It should be disclosed e~~~~

~~(a) type of hazardous waste; and by type of hazardous waste, using the classification system provided in the European Waste Catalogue (EWC).~~

~~(ii) By waste treatment t methodtype, in particular specifying the amount treated by:~~

~~xvi. incineration.~~

~~xvii. landfilling; and~~

~~xviii. other disposal operations.~~

~~52. When ~~The undertaking shall disclosing the total amount of radioactive waste generated as part of its hazardous waste disclosure, the undertaking shall . This includes identifying the types of radioactive waste, the respective treatment or disposal methods used, and refer to the definition~~defining of radioactive waste in accordance with Article 3(7) of Council Directive 2011/70/Euratom. ~~The undertaking shall also disclose the total amount of radioactive waste generated by the undertaking, where radioactive waste is defined in Article 3(7) of Council Directive 2011/70/Euratom~~²².~~

~~53. The undertaking shall provide contextual information, including information on the methodologies used to calculate the data and in particular the criteria and assumptions used to determine and classify products designed along circular principles.~~

~~31.~~

Anticipated financial effects from material environmental-related matters ~~other than climate~~ – Disclosure Requirements (E6)

~~— Disclosure Requirement E6 — Anticipated financial effects from material environmental-related matters other than climate~~

~~— The undertaking shall disclose its anticipated financial effects of material impacts and risks related to pollution, water and marine resources, biodiversity and ecosystems and circular economy, when the respective matter is material.~~

²⁰ This information supports the information needs of financial market participants subject to Regulation (EU) 2019/2088 as reflecting an additional indicator related to principal adverse impacts as set out by indicator #13 in Table 2 of Annex 4 of the related Delegated Regulation with regard to disclosure rules on sustainable investments („Non-recycled waste ratio“).

²¹ Council Directive 2011/70/Euratom of 19 July 2011 establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste (OJ L 199, 2.8.2011, p. 48). This information supports the information needs of financial market participants subject to Regulation (EU) 2019/2088 because it is derived from a mandatory indicator related to principal adverse impacts as set out by indicator #9 in Table I of Annex I of Commission Delegated Regulation (EU) 2022/1288 regarding disclosure rules on sustainable investments („Hazardous waste and radioactive waste ratio“).

²² Council Directive 2011/70/Euratom of 19 July 2011 establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste (OJ L 199, 2.8.2011, p. 48). This information supports the information needs of financial market participants subject to Regulation (EU) 2019/2088 because it is derived from a mandatory indicator related to principal adverse impacts as set out by indicator #9 in Table I of Annex I of Commission Delegated Regulation (EU) 2022/1288 regarding disclosure rules on sustainable investments („Hazardous waste and radioactive waste ratio“).

~~54. The information required by paragraph 68 is in addition to the information on current financial effects on the entity's financial position, financial performance and cash flows for the reporting period required under ESRS 2 Section 2 SBM-3 paragraph 35 (c).~~

~~55. The objective of this Disclosure Requirement is to provide an understanding of:~~

~~56. *the anticipated financial effects to the undertaking due to the environmental-related risks. These risks arise from climate change, pollution, water and marine resources, biodiversity and ecosystems and circular economy. As part of the objective, it should be possible to understand material risks to the undertaking material risks arising from impacts and dependencies related to climate change (i.e. physical and transition risks), pollution, water and marine resources, biodiversity and ecosystems and circuleconomy, and how these these risks have (or could reasonably be expected to have) a material influence on the undertaking's financial position, financial performance and cash flows over the short-, medium- and long-term.*~~ and

~~32.~~

~~33. The undertaking shall disclose by environmental topic (climate change, pollution, water and marine resources, ecosystems and biodiversity, and circular economy) a brief description of how the material risks identified in "Disclosure Requirement 7 (SBM-3)" in section 2 of this [draft] standard have (or could reasonably be expected to have) a material influence on the undertaking's financial position, financial performance and cash flows over the short-, medium- and long-term. The undertaking shall disclose a brief description of material environmental-related **physical and transition risks** that its business operations may be exposed to, by environmental topics (climate change, pollution, water and marine resources, ecosystems and biodiversity, and circular economy).~~

Climate change

~~34. In particular for climate change and in addition to the information on anticipated financial effects required under SBM-3 in Section 2 of this [draft] standard, the undertaking shall disclose^(OBJ):~~

~~(a) in relation to material **physical risks**:~~

- ~~i. proportion (percentage) of assets at material physical risk before considering climate change adaptation actions, disaggregated by acute and chronic physical risk^(OBJ); and~~
- ~~ii. the location of significant assets at material physical risk^(OBJ).~~

~~(b) in relation to material transition risks:~~

- ~~i. if the undertaking is operating in high-impact sectors, the **proportion (percentage) of assets and net revenue from its business activities at material transition risk over the short-, medium- and long-term before considering climate mitigation actions; and**~~
- ~~ii. a breakdown (number of buildings per class) of the undertaking's real estate assets by energy efficiency classes^(OBJ) (A to F, or if the building has no energy efficiency rating).~~

~~57. on a voluntary basis, *anticipated financial effects due to material opportunities related to climate change, pollution, water and marine resources, biodiversity and ecosystems and circular economy.*~~

~~58. The information required by paragraph XX is provided in addition to the information on current financial effects on the entity's financial position, financial performance and cash flows for the reporting period required under ESRS 2 Section 2 SBM-3 paragraph 35 (c).~~

~~59. The disclosure required by paragraph 68 shall include:~~

~~— if climate change is material, the undertaking shall disclose:~~

~~— whether it has identified climate-related hazards and transition events;~~

~~— if so, how it has assessed the vulnerability of its assets, activities and value chain to these hazards and transition events, creating gross climate-related risks, with the time horizons; and~~

~~— whether it has undertaken climate change adaptation actions.;~~

~~— for environmental-related matters other than climate:~~

- ~~(a) a quantification of the **anticipated financial effects** in monetary terms, or where not possible with reasonable effort, qualitative information. The quantification of the anticipated financial effects in monetary terms may be a single amount or a range;~~
- ~~(b) a description of the effects considered, the related impacts and **dependencies** to which they relate and the time horizons in which they are likely to materialise; and~~
- ~~(c) the critical assumptions used to quantify the **anticipated financial effects**, as well as the sources and level of uncertainty attached to those assumptions.~~

~~60. For **anticipated financial effects** arising from material physical and transition risks, the undertaking shall refer to Disclosure Requirement E1-4 of this Section.~~

~~61. For **anticipated financial effects** arising from material climate-related **opportunities**, the undertaking shall refer to Disclosure Requirement E1-4 of this Section.~~

~~—~~

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

~~62. For the significant assets affected by material physical risks, the undertaking shall disclose:~~

~~63. the insurance coverages; and~~

~~The undertaking shall disclose the energy efficiency classes (A to F, or if the building has no energy efficiency rating) of its building portfolio as number of buildings per class.~~

~~—~~

~~64.~~

~~(jj) the breakdown of the undertaking's carrying value of its real estate assets by energy efficiency classes as well as the energy performance certificates.~~

~~65. If applicable, the undertaking shall disclose the following percentages of its total vehicle fleet, by type of vehicle, related to the reporting period:~~

~~— Percentage of total vehicle fleet that is classified as zero emission vehicles (ZEV) or ICE, plug-in hybrid electric vehicles or hybrid vehicles; and~~

~~— The distribution of its total vehicle fleet compliance by EURO standard, expressed as percentages of fleet that comply with each EURO standards (EURO 1, 2, 3, 4, 5, 6 and following).~~

~~— The undertaking may disclose its **anticipated financial effects** that the **physical and transition risk** may have on its business operations and whether the undertaking determines that the risk is high/medium/low.~~

~~— For each of the sustainability matters: pollution; water and marine resources; biodiversity and ecosystems; and circular economy, when the respective matter is material, the undertaking shall disclose:~~

~~a quantification of the anticipated financial effects in monetary terms, or where not possible with reasonable effort, qualitative information. The quantification of the anticipated financial effects in monetary terms may be a single amount or a range;~~

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

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

~~For the disclosure of potential to pursue opportunities In relation to the potential to benefit from material climate-related opportunities, the undertaking may consider disclose its expected cost savings from climate change mitigation and adaptation actions.~~

~~For the significant assets affected by material environmental-related physical risks, the undertaking shall disclose the insurance coverages.~~

~~The undertaking shall disclose the energy efficiency classes (A to F, or if the building has no energy efficiency rating) of its building portfolio as number of buildings per class.~~

~~— If applicable, the undertaking shall disclose the following percentages of its total vehicle fleet, by type of vehicle, related to the reporting period:~~

~~— Percentage of total vehicle fleet that is classified as zero emission vehicles (ZEV) or ICE, plug-in hybrid electric vehicles or hybrid vehicles; and~~

~~— The distribution of its total vehicle fleet compliance by EURO standard, expressed as percentages of fleet that comply with each EURO standards (EURO 1, 2, 3, 4, 5, 6 and following);~~

~~— The undertaking shall disclose a brief description of material environmental-related **physical and transition risks** that its business operations may be exposed to, by environmental topics (climate change, pollution, water and marine resources, ecosystems and biodiversity, and circular economy);~~

~~—~~

~~—~~

~~—~~

Appendix A: Application Requirements

This Appendix is an integral part of this Section of this [draft] Standard. It supports the application of the requirements set for in paragraphs 1 to ~~3873~~ and has the same authority as the other parts of this [draft] Standard.

Application Requirement – E1 to E5

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

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

Application Requirements-Climate Change E1

Disclosure Requirement E1-1 – Energy consumption and mix

Calculation guidance

~~AR 1.~~ AR 3. When preparing the information on energy consumption required under paragraph 6 the undertaking shall:

- ~~(a)~~(c) only report energy consumed from processes owned or controlled by the undertaking applying the same perimeter applied for reporting GHG Scopes 1 and 2 emissions;
- ~~(b)~~(d) exclude feedstocks and fuels that are not combusted for energy purposes. The undertaking that consumes fuel as feedstocks can disclose information on this consumption separately from the required disclosures;
- ~~(e)~~(e) ensure all quantitative energy-related information is reported in either Mega-Watt-hours (MWh) in Lower Heating Value or net calorific value. If raw data of energy-related information is only available in energy units other than MWh (such as Giga-Joules (GJ) or British Thermal Units (Btu)), in volume units (such as cubic feet or gallons) or in mass units (such as kilograms or pounds), they shall be converted to MWh using suitable conversion factors (see for example Annex II of the Fifth Assessment IPCC report). Conversion factors for fuels shall be made transparent and applied in a consistent manner;
- ~~(d)~~(f) ensure all quantitative energy-related information is reported as final energy consumption, referring to the amount of energy the undertaking actually consumes using for example the table in Annex IV of Directive 2012/27 of the European Parliament and of the Council²³ on energy efficiency;
- ~~(e)~~(g) avoid double counting fuel consumption when ~~disclosing self-generated energy consumption.~~ If the undertaking generates electricity from either a non-renewable or renewable fuel source and then consumes the generated electricity, In such case, the energy consumption shall be counted only once under fuel consumption;
- ~~(f)~~(h) not offset energy consumption even if on-site generated energy is sold to and used by a third party;
- ~~(kk)~~ not count energy that is sourced from within the organisational boundary under "purchased or acquired" energy;
- ~~(ll)~~ account for steam, heat or cooling received as "waste energy" from a third party's industrial processes under "purchased or acquired" energy;

²³ Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC (OJL 315, 14.11.2012, p. 1).

~~(g)~~(i) account for renewable hydrogen²⁴ as a renewable fuel. Hydrogen that is not completely derived from renewable sources shall be included under “fuel consumption from other non-renewable sources”; and

~~(h)~~(j) adopt a conservative approach when splitting the electricity, steam, heat or cooling between renewable and non-renewable sources based on the approach applied to calculate market-based Scope 2 GHG emissions. The undertaking shall only consider these energy consumptions as deriving from renewable sources if the origin of the purchased energy is clearly defined in the contractual arrangements with its suppliers (renewable power purchasing agreement, standardised green electricity tariff, market instruments like Guarantee of Origin from renewable sources in Europe²⁵ or similar instruments like Renewable Energy Certificates in the US and Canada).

AR 2-AR 4. The information on **E**energy consumption and mix may be presented using the following tabular format.

Energy consumption and mix	Comparative	Year N
(1) Fossil <u>Non-renewable</u> energy consumption (MWh)		
(2) Consumption from nuclear sources (MWh)		
(3) Consumption from renewable sources (MWh)		
Total energy consumption (MWh) (calculated as the sum of lines 1, <u>and</u> 2 <u>and</u> 3)		

Energy intensity based on net revenue

Calculation guidance

AR 3-AR 5. When preparing the information on energy intensity required under paragraph ~~842~~, the undertaking shall:

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

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

- (b) express the total energy consumption in MWh and the net revenue in monetary units (e.g., Euros);
- (c) the numerator and denominator shall only consist of the proportion of the total final energy consumption (in the numerator) and net revenue (in the denominator) that are attributable to activities in high climate impact sectors. In effect, there should be consistency in the scope of both the numerator and denominator;
- (d) calculate the total energy consumption in line with the requirement in paragraph ~~640~~;
- (e) calculate the net revenue in line with the accounting standards requirements applicable for the financial statements, i.e., IFRS 15 Revenue from Contracts with Customers or local GAAP requirements.

²⁴ Compliant with the requirements in delegated acts for hydrogen from renewable sources: Commission delegated regulation of 10 February 2023 supplementing Directive (EU) 2018/2001 of the European Parliament and of the Council by establishing a Union methodology setting out detailed rules for the production of renewable liquid and gaseous transport fuels of non-biological origin; and Commission delegated regulation of 10 February 2023 supplementing Directive (EU) 2018/2001 of the European Parliament and of the Council by establishing a minimum threshold for greenhouse gas emissions savings of recycled carbon fuels and by specifying a methodology for assessing greenhouse gas emissions savings from renewable liquid and gaseous transport fuels of non-biological origin and from recycled carbon fuel.

²⁵ Based on Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources.

~~AR 4-AR 6.~~ The quantitative information may be presented in the following table.

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

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

~~AR 5.~~ The reconciliation of net revenue from activities in **high climate impact sectors** to the relevant financial statements line item or disclosure (as required by paragraph 11) may be presented either:

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

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

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

Calculation guidance

~~AR 6-AR 7.~~ When preparing the information for reporting GHG **emissions** as required by paragraph 12, the undertaking shall:

- ~~(a)~~~~(f)~~ consider the principles, requirements and guidance provided by the GHG Protocol Corporate Standard (version 2004). The undertaking may consider Commission Recommendation (EU) 2021/2279²⁶ or the requirements stipulated by ISO 14064-1:2018. If the undertaking already applies the GHG accounting methodology of ISO 1:2018, it shall nevertheless comply with the requirements of this standard (e.g., regarding reporting boundaries and the disclosure of market-based Scope 2 GHG emissions);
- ~~(b)~~~~(g)~~ disclose the ~~methodologies, significant assumptions and~~ emissions factors used to calculate or measure GHG emissions accompanied by the reasons why they were chosen, and provide a reference or link to any calculation tools used;
- ~~(c)~~~~(h)~~ include emissions of CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, and NF₃. Additional GHG may be considered when significant; and
- ~~(d)~~~~(i)~~ use the most recent Global Warming Potential (GWP) values published by the IPCC based on a 100-year time horizon to calculate CO₂eq emissions of non-CO₂ gases.

~~AR 7-AR 8.~~ In line with Section 1 chapter 3.7, the undertaking shall disaggregate information on its GHG emissions as appropriate. For example, the undertaking may disaggregate its Scope 1, 2, 3, or total GHG **emissions** by country, operating segments, economic activity, subsidiary, GHG category (CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, NF₃, and other GHG

²⁶ Commission Recommendation (EU) 2021/2279 of 15 December 2021 on the use of the Environmental Footprint methods to measure and communicate the life cycle environmental performance of products and organisations (OJ L 471, 30.12.2021, p.1).

considered by the undertaking) or source type (stationary combustion, mobile combustion, process emissions and fugitive emissions).

~~AR 8-AR 9.~~ An undertaking might have a different reporting period from some or all of the entities in its value chain. In such circumstances, the undertaking is permitted to measure its GHG emissions in accordance with paragraph 12 using information for reporting periods that are different from its own reporting period if that information is obtained from entities in its value chain with reporting periods that are different from the undertaking's reporting period, on the condition that:

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

~~AR 9-AR 10.~~ When preparing the information on gross **Scope 1 GHG emissions** required under paragraph 12(a), the undertaking shall:

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

~~AR 10-AR 11.~~ When preparing the information on gross **Scope 2 GHG emissions** required under paragraph 18, the undertaking shall:

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

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

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

~~AR 11-AR 12.~~ When preparing the information on gross **Scope 3 GHG emissions** required under paragraph 19, the undertaking shall:

~~g.(a)~~ consider the principles and provisions of the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard (Version 2011); and it may consider Commission Recommendation (EU) 2021/2279 or the relevant requirements for the quantification of indirect GHG emissions from EN ISO 14064-1:2018;

~~h.(b)~~ if it is a financial institution, consider the GHG Accounting and Reporting Standard for the Financial Industry from the Partnership for Carbon Accounting Financial (PCAF), specifically part A “Financed Emissions” (version December 2022);

~~i.(c)~~ screen its total Scope 3 GHG emissions based on the 15 Scope 3 categories identified by the GHG Protocol Corporate Standard and GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard (Version 2011) using appropriate estimates. Alternatively, it may screen its indirect GHG emissions based on the categories provided by EN ISO 14064-1:2018 clause 5.2.4 (excluding indirect GHG emissions from imported energy);

~~j.(d)~~ identify and disclose its significant Scope 3 categories based on the magnitude of their estimated GHG emissions and other criteria provided by GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard (Version 2011, p. 61 and 65-68) or ISO 14064-1:2018 Annex H.3.2, such as financial spend, influence, related transition risks and opportunities or stakeholder views;

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

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

~~m.(g)~~ disclose the extent to which the undertaking’s Scope 3 GHG emissions are measured using inputs from specific activities within the entity’s upstream and downstream value chain, and disclose the percentage of emissions calculated using primary data obtained from suppliers or other value chain partners;

~~(mm) for each significant Scope 3 GHG category, disclose the reporting boundaries considered, the calculation methods for estimating the GHG emissions as well as if and which calculation tools were applied. The Scope 3 categories should be consistent with the GHGP and include:~~

~~xix. indirect Scope 3 GHG emissions from the consolidated accounting group (the parent and its subsidiaries),~~

~~xx. indirect Scope 3 GHG emissions from associates, joint ventures, and unconsolidated subsidiaries for which the undertaking has the ability to control the operational activities and relationships (i.e., operational control),~~

~~xxi. Scope 1, 2 and 3 GHG emissions from associates, joint ventures, unconsolidated subsidiaries (investment entities) and joint arrangements for which the undertaking does not have~~

~~operational control and when these entities are part of the undertaking's upstream and downstream value chain.~~

~~n-AR 13.~~ disclose a list of Scope 3 GHG emissions categories included in;

~~e-(a)~~ disclose biogenic emissions of CO₂ from the combustion or biodegradation of biomass that occur in its upstream and downstream value chain separately from the gross Scope 3 GHG emissions, and include emissions of other types of GHG (such as CH₄ and N₂O), and emissions of CO₂ that occur in the life cycle of biomass other than from combustion or biodegradation (such as GHG emissions from processing or transporting biomass) in the calculation of Scope 3 GHG emissions;

~~p-(b)~~ not include any removals, or any purchased, sold or transferred carbon credits or GHG allowances in the calculation of Scope 3 GHG emissions;

~~AR 12-AR 14.~~ When preparing the information on the total **GHG emissions** required under paragraph 11d, the undertaking shall apply the following formula to calculate the total GHG emissions (location-based):

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

~~AR 13-AR 15.~~ The undertaking may also disclose total GHG emissions derived from the market-based method while measuring the underlying Scope 2 GHG emissions, using the formula

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

AR-15-AR 16. The undertaking ~~shall~~ may disclose its total GHG **emissions** disaggregated by Scopes 1 and 2, ~~and as well as total and/or~~ significant Scope 3 in accordance with the table below.

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

Total GHG emissions
(market-based) (tCO₂eq)

* Only significant Scope 3 categories are to be reported.

~~AR 16-AR 17.~~ The Scope 3 GHG **emissions** may also be presented by according to the indirect emission categories defined in EN ISO 14064-1:2018.

~~AR 17-AR 18.~~ If it is material for the undertaking's Scope 3 emissions, it shall disclose the GHG **emissions** from purchased cloud computing and data centre services as a subset of the overarching **Scope 3 category** "upstream purchased goods and services".

~~AR 18-AR 19.~~ When disclosing its gross greenhouse gas (GHG) emissions, ~~t~~he undertaking ~~might~~ ~~may~~ refer to ~~some~~ online calculators, ~~and~~ databases such as ~~the~~ and tools provided by recognised sources, such as the GHG Protocol ~~is~~ providing.

GHG intensity based on net revenue

Calculation guidance

~~AR 19-AR 20.~~ When disclosing the information on GHG intensity based on net revenue required under paragraph 21, the undertaking shall:

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

$$\text{AR 20.} \quad \frac{\text{Total GHG emissions (t CO}_2\text{eq)}}{\text{Net revenue (Monetary unit)}}$$

~~b.~~ express the total GHG emissions in metric tonnes of CO₂eq and the net revenue in monetary units (e.g., Euros) and present the results for the market-based and location-based method;

~~c.~~ include the total GHG emissions in the numerator and overall net revenue in the denominator;

~~d.~~ calculate the total GHG emissions as required by paragraphs 12 (d) and 21; and

~~e.~~ calculate the net revenue in line with the requirements in accounting standards applied for financial statements, i.e., IFRS 15 or local GAAP.

~~Connectivity of GHG intensity based on revenue with financial reporting information~~

~~AR 21.~~ ~~On a voluntary basis, the undertaking may disclose~~ The reconciliation of the net revenue used to calculate GHG intensity to the relevant line item or notes in the financial statements (as required by paragraph 22) may be done by either:

~~v.~~ a cross-reference to the related line item or disclosure in the financial statements; or

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

Net revenue used to calculate GHG intensity	
Net revenue (other)	
Total net revenue (in financial statements)	

~~— The undertaking may disclose the reconciliation to the relevant line item or notes in the financial statements of the net revenue amounts (the denominator in the calculation of the GHG emissions intensity required by paragraphs 21). If it is not possible to provide a reconciliation after making reasonable efforts to do so, the undertaking may provide an explanation of where in the financial statements net revenue amounts can be found.~~

~~AR 21.~~ Small and non-complex credit institutions (see Section 1 paragraph 2b)) may replace net revenue with a different financial indicator, until a sectoral standard is established.

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

GHG removals and storage in own operations ~~and the upstream and downstream value chain~~

~~AR 22.~~ In addition to their GHG emission inventories, undertakings shall provide transparency on how and to what extent they either enhance natural sinks or apply technical solutions to remove GHGs from the atmosphere in their own operations ~~and upstream and downstream value chain~~. While there are no generally accepted concepts and methodologies for accounting for GHG removals, this [draft] Standard aims to increase transparency on the undertaking's efforts to remove GHGs from the atmosphere (paragraph 15). ~~The GHG removals outside the value chain that the undertaking supports through the purchase of carbon credits are to be disclosed separately as required by paragraph 1.~~

~~AR 22-AR 23.~~ The requirement in paragraph 17 shall only be reported by those undertakings that developed any GHG removal and storage project in its own operations, or contributed to in its upstream and downstream value chain. If no such projects are in place, undertakings are not expected to provide any information on GHG removals and storage.

~~AR 23.~~ When disclosing the information on **GHG removals and storage** from the undertaking's own operations ~~and its upstream and downstream value chain~~ required under paragraphs 24(a) and 26, for each removal and storage activity, the undertaking may describe:

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

Calculation guidance

AR 24. When preparing the information on **GHG removals and storage** from the undertaking's own operations and its upstream and downstream value chain ~~and its upstream and downstream value chain~~ required under paragraphs 24(a) and 26~~196~~, the undertaking may:

- (a) break down its GHG removals and storage by removal activity;
- ~~x-~~(b) consider, as far as applicable, the GHG Protocol Corporate Standard (version 2004), Product Standard (version 2011), Agriculture Guidance (version 2014), Land use, land-use change, and forestry Guidance for GHG project accounting (version 2006);
- ~~(rr)~~ apply consensus methods on accounting for GHG removals as soon as they are available, notably the EU regulatory framework for the certification of CO₂ removals;
- y-(c) if applicable, explain the role of removals for its climate change mitigation policy;
- ~~z-~~ include removals from operations that it owns or controls, or contributes to, and that have not been sold to another party through carbon credits;
- ~~aa-~~ if applicable, mark those GHG removal activities in own operations or the value chain that have been converted into carbon credits and sold to other parties on the voluntary market;
- ~~bb-~~(d) account for the GHG emissions associated with a removal activity, including transport and storage, under Disclosure Requirement E1-3-~~2~~ (Scopes 1, 2 or 3). To increase transparency on the efficiency of a removal activity, including transport and storage, the undertaking may disclose the GHG emissions associated with this

activity (e.g., GHG emissions from electricity consumption of direct air capture technologies) alongside, but separately from, the amount of removed GHG emissions;

~~ee.~~(e) in case of a reversal, account for the respective GHG emissions as an offset for the removals in the reporting period;

~~(es)~~ use the most recent GWP values published by the IPCC based on a 100-year time horizon to calculate CO₂eq emissions of non-CO₂ gases and describe the assumptions made, methodologies and frameworks applied for calculation of the amount of GHG removals ~~consider nature-based solutions.~~

~~(f) The undertaking shall disaggregate and separately disclose the GHG removals that occur in its own operations and those that occur in its upstream and downstream value chain. GHG removal activities in the upstream and downstream 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 upstream and downstream value chain that it is not aware of.;~~

~~(g) describe how the risk of non-permanence is managed, including determining and monitoring leakage and reversal events, as appropriate.~~

dd. |

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

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

~~GHG mitigation projects financed through carbon credits~~

~~AR 26. Financing GHG emission reduction projects outside the undertaking's value chain through purchasing carbon credits that fulfil high-quality standards can be a useful contribution towards mitigating climate change. This [draft] Standard requires the undertaking to disclose whether it~~

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

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

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

~~Calculation guidance~~

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

- ~~(a) — Consider recognised quality standards;~~
- ~~jj. — if applicable, explain the role of carbon credits in its climate change mitigation policy;~~
- ~~kk. — not include carbon credits issued from GHG emission reduction projects within its value chain, as the respective GHG emission reductions shall already be disclosed under Disclosure Requirement E1-3 (Scope 2 or Scope 3) at the time they occur (i.e., double counting is avoided);~~
- ~~ll. — not include carbon credits from GHG removal projects within its value chain as the respective GHG removals may already be accounted for under Disclosure Requirement E1-4 at the time they occur (i.e., double counting is avoided);~~
- ~~mm. — not disclose carbon credits as an offset for its GHG emissions under Disclosure Requirement E1-6 2 on GHG emissions;~~
- ~~nn. — not disclose carbon credits to reach the GHG emission reduction targets disclosed under Disclosure Requirement E1-4; and~~
- ~~oo. — calculate the amount of carbon credits to be cancelled in the future, as the sum of carbon credits in metric tonnes of CO₂eq over the duration of existing contractual agreements.~~

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

Carbon credits cancelled in the reporting year	Comparative	N
Total (tCO₂eq)		
Share from removal projects (%)		
Share from reduction projects (%)		
Recognised quality standard 1 (%)		
Recognised quality standard 2 (%)		
Recognised quality standard 3 (%)		

...		
Share from projects within the EU (%)		
Share of carbon credits that qualify as corresponding adjustments (%)		

Carbon credits planned to be cancelled in the future	Amount until [period]
Total (tCO ₂ eq)	

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

Anticipated financial effects from material physical and transition risks

AR 30. Material climate-related **physical risks** and **transition risks** may affect the undertaking's financial position (e.g., owned assets, financially controlled leased assets, and liabilities), performance (e.g., potential future increase/decrease in net revenue and costs due to business interruptions, increased supply prices resulting in potential margin erosions), and cash flows. The low probability, high severity and long-term time horizons of some climate-related physical risk exposures and the uncertainty arising from the transition to a sustainable economy mean that there will be associated material **anticipated** financial effects that are outside the scope of the requirements of applicable accounting standards.

AR 31. Currently, there is no commonly accepted methodology to assess or measure how material **physical risks** and **transition risks** may affect the undertaking's future financial position, financial performance and cash flows. Therefore, the disclosure of the financial effects (as required by paragraphs 29, 31 and 32) will depend on the undertaking's internal methodology and the exercise of significant judgement in determining the inputs, and assumptions needed to quantify and where applicable describe the **anticipated financial effects**.

Calculation guidance – Anticipated financial effects from material physical risks

AR 32. When disclosing the information required under paragraphs 29(a) and 31, the undertaking shall may explain whether and how:

(tt) it assessed the **anticipated financial effects** for assets and business activities at material physical risk, including the scope of application, time horizons, calculation methodology, critical assumptions and parameters and limitations of the assessment; and

(uu) the assessment of assets and business activities considered to be at material **physical risk** relies on or is part of the process to determine material physical risk as required under paragraphs 18(b) and AR 12 and to determine climate **scenarios** as required under paragraphs 19 and AR 13 to AR 14. It shall explain how it has defined medium- and long-term time horizons and how these definitions are linked to the expected lifetime of the undertaking's assets, strategic planning horizons and capital allocation plans.

AR 33. When preparing the information on assets at material physical risk that is required to be disclosed under paragraph 31(a), the undertaking shall:

(vv) Calculate the assets at material physical risk in terms of monetary amount and as a proportion (percentage) of total assets at the reporting date (i.e., the proportion is an estimate of the carrying value of assets at material physical risk divided by total carrying value as stated in the statement of financial position or balance sheet). The estimate of assets at material physical risk shall be derived starting from the assets recognised in

the financial statements. The estimate of monetary amounts and proportion of assets at physical risk may be presented as either a single amount or range.

(ww) — All types of assets including finance-lease / right-of-use assets shall be considered when determining the assets at material physical risk.

(xx) To contextualise this information, the undertaking shall:

xxii. — disclose the location of its significant assets at material physical risk. Significant assets located in the EU territory shall be aggregated by NUTS codes 1 level digits (Nomenclature of Territorial Units for Statistics). For significant assets located outside EU territory, the breakdown by NUTS code will only be provided where applicable.

xxiii. — disaggregate the monetary amounts of assets at risk by acute and chronic physical risk.

(yy) calculate the share of assets at material physical risk resulting from paragraph AR 31 (a) that is addressed by the **climate change adaptation actions** based on the information disclosed under Disclosure Requirement 11 (IR-3) — *Policies and actions in relation to sustainability matters* (Section 3).

AR 34. When preparing the information required under paragraph 31(a), the undertaking may assess and disclose the share of net revenue from business activities at physical risk. This disclosure:

(zz) shall be based on the net revenue in line with the requirements in accounting standards applied for financial statements, i.e., IFRS 15 or local GAAP.

(aaa) — may include a breakdown of the undertaking's business activities with the corresponding details of the associated percentage of total net revenue, the risk factors (hazards, exposure and sensitivity) and, if possible, the magnitude of the **anticipated financial effects** in terms of margin erosion over the short-, medium- and long-term time horizons. The nature of business activities may also be disaggregated by operating segments if the undertaking has disclosed the contribution of margins by operational segments in its segment reporting in the financial statements.

Calculation guidance – Anticipated financial effects from transition risk

AR 35. When disclosing the information required under paragraphs 29(b) and 32(a), the undertaking shall explain whether and how:

(bbb) — 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

(ccc) — the assessment of assets and business activities considered to be at material transition risk relies on or is part of the process to determine material **transition risks** as described under AR 35(b), AR 37, AR 39, and AR 40 of [draft] Section 2 (Disclosure Requirement 9 (IR-1) *Description of the processes to identify and assess material impacts and risks*) and to determine **scenarios** as required under AR 39 to AR 40. It shall explain how it has defined medium- and long-term time horizons and how these definitions are linked to the expected lifetime of the undertaking's assets, strategic planning horizons and capital allocation plans.

AR 36. When disclosing the information on assets at material transition risk as required under paragraphs 32(a) and (b):

(ddd) — the undertaking shall at the very least include an estimate of the amount of potentially stranded assets (in monetary amounts and as a proportion/percentage) from the reporting year until 2030 and from 2030 to 2050. Stranded assets are understood as active or firmly planned key assets of the undertaking with significant **locked-in GHG emissions** over their operating lifetime. Firmly planned key assets are those that the undertaking will most likely deploy within the next five years. The amount may be expressed as a range of asset values based on different climate and **policy scenarios**, including a scenario aligned with limiting climate change to 1.5°C.

~~(eee) — the undertaking may disclose a breakdown of the carrying value of its real estate assets, including rights-of-use assets, by energy efficiency classes. The energy efficiency shall be represented in terms of either the ranges of energy consumption in kWh/m² or the EPC (Energy Performance Certificate) label class. If the undertaking cannot obtain this information on a best-effort basis, it shall disclose the total carrying amount of the real estate assets for which the energy consumption is based on internal estimates.~~

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

~~AR 37. When disclosing the information on potential liabilities from material **transition risks** required under paragraph 32(d):~~

~~(ggg) — undertakings that operate **installations** regulated under an emission trading scheme may include a range of potential future liabilities originating from these schemes;~~

~~(hhh) — undertakings subject to the EU ETS, may disclose the potential future liabilities that relate to their allocation plans for the period before and until 2030. The potential liability may be estimated based on:~~

~~xxiv. — the number of allowances held by the undertaking at the beginning of the reporting period;~~

~~xxv. — the number of allowances to be purchased in the market yearly, i.e., before and until 2030;~~

~~xxvi. — the gap between estimated future **emissions** under various transition **scenarios** and free allocations of allowances that are known for the period until 2030; and~~

~~xxvii. — the estimated yearly cost per tonne of CO₂ for which an allowance needs to be purchased;~~

~~(iii) In assessing its potential future liabilities, the undertaking may consider and disclose the number of Scope 1 GHG emission allowances within regulated emission trading schemes and the cumulative number of emission allowances stored (from previous allowances) at the beginning of the reporting period;~~

~~(jjj) undertakings disclosing volumes of **carbon credits** planned to be cancelled in the near future (Disclosure Requirement E1-7) may disclose the potential future liabilities associated with those based on existing contractual agreements;~~

~~(kkk) — the undertaking may also include its monetised gross Scope 1, 2 and total GHG **emissions** (in monetary units) calculated as follows:~~

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

~~xxviii. — monetised total GHG emissions in the reporting year by the following formula:~~

~~xxix. — 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.~~

~~AR 38. Other approaches and methodologies may be applied to assess how **transition risks** may affect the future financial position of the undertaking. In any case, the disclosure of **anticipated financial effects** shall include a description of the methodologies and definitions used by the undertaking.~~

~~AR 39. When preparing the information required under paragraph 32(e), the undertaking may assess and disclose the share of net revenue from business activities at **transition risks**. This disclosure:~~

~~(lll) shall be based on the net revenue in line with the requirements in accounting standards applied for financial statements, i.e., IFRS 15 or local GAAP.~~

~~(mmm) may include a breakdown of the undertaking's business activities with the corresponding details of the associated percentage of current net revenue, risk factors (events and exposure), and when possible, the **anticipated financial effects** related to margin erosion over the short-, medium- and long-term. The nature of business activities may also be disaggregated by operating segments if the undertaking has disclosed the contribution of margins by operational segments in its segment reporting in the financial statements.~~

Connectivity with financial reporting information

~~AR 40. The reconciliation of the significant amount of assets, liabilities, and net revenue (vulnerable to either material **physical risks** or **transition risks**) to the relevant line item or disclosure (e.g., in segment reporting) in the financial statements (as required by paragraph 33) may be presented by the undertaking as follows:~~

~~(nnn) as a cross-reference to the related line item or disclosure in the financial statements if these amounts are identifiable in the financial statements; or~~

~~(ooo) If these cannot be directly cross-referenced, as a quantitative reconciliation of each to the relevant line item or disclosure in the financial statement using the below tabular format:~~

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

~~AR 41. **The undertaking shall ensure the consistency of data and assumptions to assess and report the anticipated financial effects from material physical risks and transition risks in the sustainability statement with the corresponding data and assumptions used for the financial statements (e.g., carbon prices used for assessing impairment of assets, the useful life of assets, estimates and provisions). The undertaking shall explain the reasons for any inconsistencies (e.g., if the full financial implications of climate-related risks are still under assessment or are not deemed material in the financial statements).**~~

~~AR 42. **For potential future effects on liabilities (as required by paragraph 32(d)), if applicable, the undertaking shall cross-reference the description of the emission trading schemes in the financial statements.**~~

~~Climate-related opportunities~~

~~AR 43. **When disclosing the information under paragraph 35 (a), the undertaking may explain the nature of the cost savings (e.g., from reduced energy consumption), the time horizons and the methodology used, including the scope of the assessment,**~~

~~critical assumptions, and limitations, and whether and how scenario analysis was applied.~~

~~AR 44. — When disclosing the information required under paragraph 35 (b), the undertaking may explain how it has assessed the market size or any expected changes to net revenue from low-carbon products and services or adaptation solutions including the scope of the assessment, the time horizon, critical assumptions, and limitations and to what extent this market is accessible to the undertaking. The information on the market size may be put in perspective to the current taxonomy-aligned revenue disclosed under the provisions of Regulation (EU) 2020/852. The entity may also explain how it will pursue its climate-related opportunities and, where possible, this should be linked to the disclosures on policies, targets and actions under Disclosure Requirements E1-2, E1-3 and E1-4.~~

Application Requirements-Pollution (E2)

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

~~AR 45. The objective of this Disclosure Requirement is to enable an understanding of the undertaking's material risks, including exposure to those pollutants, substances and risks arising from changes in regulations.~~

~~— Microplastics~~

~~— The information to be provided on microplastics under paragraph 38(b) shall include microplastics that have been generated or used during production processes or that are procured, and that leave the undertaking's facilities as emissions, as products, or as part of products or services. Microplastics may be unintentionally produced when larger pieces of plastics like car tires or synthetic textiles wear and tear or may be deliberately manufactured and added to products for specific purposes (e.g., exfoliating beads in facial or body scrubs).¹ as a minimum, information on the microplastics amounts that the undertaking generates or uses. These refer to intentional or unintentional generation or use, both through production processes and procurement. For reporting purposes, microplastics leaving the facilities of the undertaking in the form of products, parts of products or services, or emissions are to be considered. Microplastics that stay within the facilities, that are used in production processes and that represent inventory used for business processes need not be reported, as they do not leave the facilities.~~

Emissions of pollutants to air, water and soil

~~AR 46-~~

~~AR 26. Considering paragraph 38(a), if the undertaking is not required to disclose its pollutants emissions by law, but it already voluntarily reports information on such pollutants according to an Environmental Management System such as Eco-Management and Audit Scheme (EMAS), then it may choose to voluntarily disclose the pollutants it emits to air, water and soil, with the respective amounts.~~

~~AR 47-AR 27.~~ The ~~amounts~~**volume** of **pollutants** shall be calculated and presented for the aggregated amount of each pollutant individually, but the mass of different pollutants shall not be added together. For example, an undertaking with two factories that emit mercury and lead, shall add the lead emission from the two factories, but not add lead and mercury emissions. The units of reporting shall be appropriate mass units, for example in tonnes or kilogrammes, depending on type and quantities of ~~the each~~ pollutant.

~~AR 28.~~ The **metrics** to be disclosed under paragraph 38(a) refer to information that the undertaking is already mandated to provide by law. This requirement was conceived to avoid any additional reporting burden on undertakings. In general, this requirement is expected to apply to undertakings that are operators of one industrial **installation or intensive livestock farm** covered by the ~~Industrial Emissions Directive (IED)~~ **Industrial and Livestock Rearing Emissions Directive (IED 2.0), amending the Industrial Emissions Directive (IED)**. The IED **2.0** applies to some ~~7552,000~~ installations in Europe covering activities such as burning fuel in boilers with rated power of more than 50 MW, metal foundries, processing of non-ferrous metals, production of lime, manufacture of ceramic products by firing, production of plant protection products or biocides, **rearing of any mix of pigs or poultry representing 380 livestock units or more**, tanning of hides, or slaughterhouses. In these cases, the installation **must** already ~~has to~~ report to the competent authority the pollutants released to air, water and **soil**, and the data is publicly available at the **Industrial Emissions Portal Regulation (IEPR), replacing the European Pollutant Release and Transfer Register (E-PRTR)**~~European Pollutant Release and Transfer Register (E-PRTR)~~. Companies that operate more than one facility, do not have to report on their consolidated company-wide emissions under the EPRTR, as they report only at facility level. This disclosure requirement requires to report the total amount of all the facilities. Similarly, companies owning but not operating a facility, do not have to report to the EPRTR but are expected to reflect their facility-owned emissions in their sustainability statement.

~~AR 29.~~ Likewise, if under an EMAS certification an undertaking has been identified as having to monitor and report on the pollutants listed in the E-PRTR, these are in principle relevant aspects for the undertaking to include in its sustainability report.

AR 30. If an undertaking has only one facility or operates in only one facility, and if its pollution data is already publicly available, the undertaking may refer to the document where such information is provided instead of reporting it once again. Likewise, if the undertaking publishes an organisation-wide EMAS report that incorporates pollution data, it can include it in the sustainability report by reference.

AR 31. To report information on pollutants in the sustainability report, the undertaking should indicate the type of pollutant material being reported alongside the amount emitted to air, water and soil in a suitable mass unit (e.g., t or kg).

AR 32. Below can be found an example of how undertakings may present information on their emissions to air, water and soil divided by pollutant type.

<u>AR 33. Pollutant</u>	<u>AR 34. Emissions (kg)</u>	<u>AR 35. Medium of release (air, water, soil)</u>
<u>AR 36. e.g., Cadmium and compounds</u>	<u>AR 37. 10</u>	<u>AR 38. Water</u>
<u>AR 39. Type of pollutant 2</u>	<u>AR 40.</u>	<u>AR 41.</u>
<u>AR 42. Type of pollutant 3</u>	<u>AR 43.</u>	<u>AR 44.</u>

AR 48-AR 45. The information required under this Disclosure Requirement shall be provided at the level of the reporting undertaking. However, the undertaking may disclose additional breakdown including information at **site** level or a breakdown of its **emissions** by type of source, by sector or by geographical area.

AR 49. Contextual information

~~AR 50.~~ The information provided under this Disclosure Requirement may refer to information the undertaking is already required to report under other existing legislation (i.e., IED or E-PRTR).

~~AR 51-AR 46.~~ Where the undertaking's activities are subject to Directive (EU) 2024/1785~~2010/75/EU~~ of the European Parliament and of the Council ~~on industrial emissions (IED)~~²⁷ amending Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions (IED 2.0)~~2010/75/EU~~²⁸ and relevant Best Available Techniques Reference Documents (**BREFs**), irrespective of whether the activity takes place within the European Union or not, the undertaking may disclose the following additional information:

- ~~pp.~~a. a list of installations operated by the undertaking that fall under the IED and EU BAT Conclusions;
- ~~qq.~~b. a list of any non-compliance incidents or enforcement actions necessary to ensure compliance in case of breaches of permit conditions;
- ~~rr.~~c. the actual performance, as specified in the EU-BAT conclusions for industrial installations, and comparison of the undertaking's environmental performance against "emission levels associated with the best available techniques" the (BAT-AEL) as described in EU-BAT conclusions;
- ~~ss.~~d. the actual performance of the undertaking against "environmental performance levels associated with the best available techniques (BAT-AEPLs) provided that they are applicable to the sector and installation; and
- ~~tt.~~e. a list of any compliance schedules or derogations granted by competent authorities according to Art. 15(4) Directive 2010/75/EU that are associated with the implementation of BAT-AELs.

AR 52. Methodologies

²⁷ Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control) (OJ L 334, 17.12.2010, p. 17).

²⁸ Directive (EU) 2024/1785 of the European Parliament and of the Council of 24 April 2024 amending Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions (integrated pollution prevention and control) and Council Directive 1999/31/EC on the landfill of waste (Text with EEA relevance).

~~AR 53.~~ When providing information on **pollutants**, the undertaking shall consider approaches for quantification in the following order of priority:

~~(a)~~ direct measurement of emissions, effluents or other **pollution** through the use of recognised continuous monitoring systems (e.g., AMS Automated Measuring Systems);

~~(ppp)~~ periodic measurements;

~~(qqq)~~ calculation based on **site**-specific data;

~~(rrr)~~ calculation based on published pollution factors; and

~~(sss)~~ estimation.

~~AR 54.~~ Regarding the disclosure of methodologies required by paragraph 39, the undertaking shall consider:

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

~~(ttt)~~ whether and how the calibration tests of the AMS were undertaken and the verification of periodic measurement by independent labs were ensured.

~~AR 55.~~ ~~AR 47.~~ The amounts referred in paragraph 38 shall include the emissions from those facilities over which the undertaking has financial control and those over which it has **operational control**. It shall include only the emissions from facilities for which the applicable threshold value specified in Annex II of Regulation ~~(EC)~~ ~~(EU) 2024/1244~~ ~~No 166/2006~~ is exceeded.

~~AR 56.~~ ~~When disclosing the information required under paragraph 39, when an inferior methodology compared to direct measurement of emissions is chosen to quantify emissions, the reasons for choosing this inferior methodology shall be outlined by the undertaking. If the undertaking uses estimates, it shall disclose the standard, sectoral study or sources which form the basis of its estimates, as well as the possible degree of uncertainty and the range of estimates reflecting the measurement uncertainty.~~

Microplastics

~~AR 57.~~ ~~AR 48.~~ The information to be provided on microplastics under paragraph 38(b) shall include microplastics that have been generated or used during production processes or that are procured, and that leave the undertaking's facilities as emissions, as products, or as part of products or services. Microplastics may be unintentionally produced when larger pieces of plastics like car tires or synthetic textiles wear and tear or may be deliberately manufactured and added to products for specific purposes (e.g., exfoliating beads in facial or body scrubs)., as a minimum, information on the microplastics amounts that the undertaking generates or uses. These refer to intentional or unintentional generation ~~(microplastics as a final output) or use (microplastics as part of the production input)~~, both through production processes and procurement. For reporting purposes, microplastics leaving the facilities of the undertaking in the form of products, parts of products or services, or emissions are to be considered. Microplastics that stay within the facilities, that are used in production processes and that represent inventory used for business processes need not be reported, as they do not leave the facilities.

~~AR 58.~~ ~~Disclosure Requirement E2-2 — Substances of concern and substances of very high concern~~

~~AR 59.~~ ~~List of substances to be considered:~~

~~AR 60.~~ ~~Substances of concern and substances of very high concern~~

~~AR 61.~~ ~~AR 49.~~ In order for the information to be complete, **substances** in the undertaking's own operations and those procured shall be included (e.g., embedded in ingredients, semi-finished products, or the final product).

~~AR 50.~~ The volume of **pollutants** shall be presented in mass units, for example tonnes or kilogrammes or other mass units appropriate for the volumes and type of pollutants being released.

AR 51. The applicability of this Disclosure Requirement depends on the relevant regulations and legal frameworks that require the monitoring of substances for management purposes.

AR 52. As per the ESRS Glossary, Substances of Concern constitute a broader group of substances, including: (a) the Substances of Very High Concern meeting the criteria laid down in Art. 57 and 59 of the Regulation (EC) No 1907/2006 (REACH); (b) the substances classified in one of the hazard classes or hazard categories, and as listed in Part 3 (Table 3.1) of Annex VI of Regulation (EC) No 1272/2008 (CLP); (c) and the substances that negatively affect the reuse and recycling of materials in the products in which they are present, as defined in the Regulation (EU) 2024/1781 (ESPR).

AR 53. The list of substances covered by point (a) is available by consulting the ‘Candidate List of substances of very high concern for Authorisation’ managed by the European Chemicals Agency (ECHA), pursuant to Article 59 (10) of the REACH Regulation. The list of substances covered by point (b) is available by consulting the table of harmonised entries in Annex VI to CLP, containing all updates³ to the harmonised classification and labelling of hazardous substances, which are available in Table 3 of Annex VI to the CLP Regulation, managed by the ECHA. The ECHA also provides a database (C&L Inventory) to filter Annex VI by specific hazard classes. As for point (c), the presence of substances of concern should be traceable throughout the specific products lifecycle and constitutes one specific Ecodesign requirement (Article 5) - the information requirement shall include, among others, (i) name or numerical code of the substances present in the product; (ii) location of the substances of concern within the product; (iii) concentration, maximum concentration or concentration range of the substances of concern, at the level of the product, its relevant components, or spare parts (Article 7.5).

AR 54. Undertakings may refer to the regulatory sources – the REACH and CLP regulations – to identify information on the definitions and lists of substances as well as for further indications on hazard classes.

~~AR 62-AR 55.~~ The information provided under this Disclosure Requirement may refer to information the undertaking is already required to report under other existing legislation (i.e., Directive 2010/75/EU or Regulation (EC) No 166/2006 “E-PRTR”).

Application Requirements-Water and Marine Resources (E3)

Disclosure Requirement E3-1 – Water consumption

~~AR 63. When disclosing contextual information on water management performance required by paragraph 44, the undertaking shall explain the calculation methodologies and the share of the measure obtained from direct measurement, from sampling and extrapolation, or from best estimates. When disclosing contextual information on water management performance required by paragraph 394, the undertaking shall explain the calculation methodologies and the share of the measure obtained from direct measurement, from sampling and extrapolation, or from best estimates.~~

~~AR 64-AR 56.~~ The requirements on water consumption under paragraph 20 (a) and (b) may not apply for undertakings that solely withdraw water from the public water network and discharge it into the sewer (e.g. office services), while they may be applicable to undertakings whose operations imply water evaporation (e.g. drying, power production) or water being embedded in products (e.g. food production). The applicability is anyways subject to the materiality assessment of the undertaking.

AR 57. The undertaking may disclose other information on water consumption performance in its own operations, in addition to the ones required by paragraph 208~~xx~~, such as total water recycled and reused⁽⁶⁶⁾ in m³ and total water stored and changes in storage in m³.

AR 58. The undertaking may also disclose its total water withdrawal, i.e., the amount of water drawn into the boundaries of the organisation (or facility).

When disclosing information required by paragraph 212, the undertaking may provide additional intensity ratios based on other denominators.

~~When disclosing contextual information on water management performance required by paragraph 44, the undertaking shall explain the calculation methodologies and the share of the measure obtained from direct measurement, from sampling and extrapolation, or from best estimates.~~

AR 59.

AR 65.

Application Requirements-Biodiversity and ecosystems (E4)

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

~~AR 66. Managed **sites** are specific locations of one or more physical **installations**, which the undertaking manages. In certain cases, there may be more than one physical installation from the same or different owners or operators and certain infrastructure and facilities may be shared. In these cases, the entire area where the physical installation is located may constitute a site.~~

~~AR 67. When preparing the information required under this [draft] Disclosure Requirement, the undertaking shall briefly describe the **metrics** and methodologies used including:~~

~~(uuu) why these were selected;~~

~~(vvv) their organizational scope (undertaking, site, brand, commodity, corporate business unit, activity), operational scope (entire **value chain**, upstream or downstream value chain, or own operations and leased assets) and geographical scope (geographies covered by the metrics;~~

~~(www) if metrics are species specific or **ecosystem** specific;~~

~~(xxx) an indication of which **actions** are measured and monitored via the metrics and how they relate to the achievement of targets.~~

~~AR 68. The undertaking may also disclose:~~

~~(yyy) how the metrics integrate **ecological thresholds** (e.g., the biosphere integrity and land-system change **planetary boundaries**) and allocations;~~

~~(zzz) the frequency of monitoring, key indicators being monitored, and the baseline condition/value and baseline year/period, as well as the reference period;~~

~~(aaaa) other methodological aspects such as if the parametrisation of these metrics rely on primary data, secondary data, modelled data or on expert judgement, or a mixture of these;~~

~~(bbbb) whether metrics are mandatory (based on legislation) or voluntary. If they are mandatory, the undertaking may consider listing the relevant legislation; if voluntary, refer to the voluntary standard/procedure used; and~~

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

~~AR 69.~~AR 60. Methodologies available to collect data and measure the undertakings' **impacts** on **biodiversity** and **ecosystems** may be separated into three categories as follows:

~~uu.a.~~ primary data: collected in situ using on the ground surveys;

~~vv.b.~~ secondary data: including geospatial data layers that are overlaid with geographic location data of business activities:

~~ww.c.~~ at the species level, data layers on the ranges of different species can be used to predict the species that may be present at different locations. This includes operation sites and sourcing locations. Different range layers will have differing levels of accuracy depending on certain factors (e.g., whether species ranges have been refined based on availability of habitat). Information on the threat status of the species, and the activities that threaten

them, can provide an indication of the likely contribution that business activities may be having on driving population trends and threat status;

~~xx.d.~~ at the ecosystem level, data layers reflecting change in the extent and condition of ecosystems can be applied, including levels of habitat fragmentation and connectivity;

~~yy.e.~~ modelled biodiversity state data: Model-based approaches are commonly used for measuring ecosystem level indicators (e.g., extent, condition, or function). Models quantify how the magnitude of different pressures affects the state of biodiversity. These are referred to as pressure-state relationships and are based on globally collected data. Modelling results are applied locally to estimate how undertaking-level pressures will cause changes in ecosystem condition. An impact driver generally has three main characteristics: magnitude (e.g., amount of contaminant, noise intensity), spatial extent (e.g., area of land contaminated) and temporal extent (duration of persistence of contaminant).

~~AR 70.~~ With regard to ~~life cycle assessment for land use~~, the undertaking may refer to the “Land-use related environmental indicators for Life Cycle Assessment” by the Joint Research Center.

~~AR 71.~~ With regard to the introduction of invasive alien species, the undertaking may disclose the pathways and number of **invasive alien species** and the extent of surface covered by invasive alien species.

~~AR 72.~~ With regard to ~~metrics~~ on the extent and condition of **ecosystems**, useful guidance can be found in the work of the United Nations System of Environmental Economic Accounting Ecosystem Accounting (UN-SEEA EA).

~~AR 73.~~ When disclosing metrics related to land use as per E4-1 paragraph 25, the undertaking may disclose in units of area (e.g., m² or ha) on land use using use guidance provided by the Eco-Management and Audit Scheme (EMAS)²⁹:

~~(dddd)~~ total use of land;

~~(eeee)~~ total sealed area;

~~(ffff)~~ total nature-oriented area on **site**; and

~~(gggg)~~ total nature-oriented area off site.

~~AR 74.~~AR 61. The undertaking may disclose, for example, land cover change, which is the physical representation of the drivers “habitat modification” and “industrial and domestic activities”, i.e., the man-made or natural change of the physical properties of Earth’s surface at a specific location.

~~AR 75.~~AR 62. Land cover is a typical variable that can be assessed with earth observation data.

~~AR 76.~~AR 63. When reporting on material **impacts** related to the **ecosystems**, the undertaking may, in addition to the extent and condition of ecosystems, also consider the functioning of ecosystems by using:

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

~~aaa.(a)~~ a metric that measures changes to the population of scientifically identified species under threat.

²⁹ As proposed by the COMMISSION REGULATION (EU) 2018/2026 of 19 December 2018 amending Annex IV to Regulation (EC) No 1221/2009 of the European Parliament and of the Council on the voluntary participation by organisations in a Community eco-management and audit scheme (EMAS).

~~AR 77-AR 64.~~ At the **ecosystem** level, data layers reflecting change in the extent and condition of **ecosystems** may be applied, including levels of **habitat fragmentation** and connectivity.

Application Requirements- Resource use and Circular Economy (E5)

Disclosure Requirement E5-1 – Resource inflows

~~AR 78-AR 65.~~ The disclosure required by paragraph 27 (a)8, a description of its impacts and risks originating from **resource inflows** used in the undertaking's own operations and along its upstream value chain, it may distinguish between: a) materials, including: i) raw materials, distinguishing between critical raw materials and rare earths; ii) **associated process materials**; iii) semi-manufactured goods or parts; b) products, including several categories such as **packaging**, IT equipment, textiles, furniture, buildings, heavy machinery, mid-weight machinery, light machinery, heavy transport, mid-weight transport, light transport and warehousing equipment; c) water; c) property, plant and equipment. When describing the relevant resource inflows that generate IROs, the undertaking shall explain what type it is referring to. Examples include raw materials (e.g. wood, ores), products (e.g. machinery), goods, semi-manufactured goods, or parts used as input into its products and services (e.g. electronic components).

~~AR 66.~~ When assessing the materiality of resource inflows, the undertaking ~~should~~may consider both the volume or weight of specific materials and their impact on operations. The undertaking may use the following materiality ratio formula to determine if a resource inflow is material:

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

~~AR 67.~~ While specific thresholds for materiality may vary depending on the context and industry, inflows with higher ratios typically warrant disclosure due to their potential impact on the undertaking's sustainability and operational performance.

~~AR 79-AR 68.~~ The **resource inflows** to be considered for calculation of **metrics** mentioned in paragraphs 279 are the ones considered to expose the undertaking to material impacts or risks and not all resource inflows the undertaking is sourcing.

~~AR 69.~~ The reported usage data are to reflect the material in its original state, and not to be presented with further data manipulation, such as reporting it as "dry weight".

~~AR 70.~~ The annual mass-flow (see paragraph 27 (b)) is an indicator aligned with the EMAS requirements on efficiency of material consumption and it illustrates an undertaking's dependency on specific materials in its operations (e.g., wood and steel for the construction industry). The undertaking is here required to provide information on the materials it uses, including both the materials acquired from suppliers and those sourced internally from production. To compute the annual mass flow of the relevant materials it has used, the undertaking will need to first identify the specific relevant materials on which its operations are dependent and for which material efficiency needs to be evaluated (e.g., material efficiency of wood). If different types of materials are used, the undertaking will need to provide separately the annual mass flow (i.e., total weight for each relevant material used; e.g., tonnes of wood purchased) for each relevant material in an appropriate manner, for example by breaking it down by the use to which they are put (EMAS, 2023). The mass flow of relevant materials used will result from the sum of the weight of all used materials, including raw materials, auxiliary materials, input materials, semi-finished products, or others (excluding energy sources and water) and provide the total weight for each key material used (e.g., tonnes of wood purchased). The mass flow of relevant materials used will result from the sum of the weight of all used materials, including raw materials, auxiliary materials, input materials, semi-finished products, or others (excluding energy sources and water).

—The annual mass-flow is to be preferably expressed in units of weight (e.g., kilograms or tonnes), volume (e.g., m³) or other metric units commonly used in the sector.

~~AR 80-AR 71.~~

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

AR 81.

Disclosure Requirement E5-2 - Resource outflows

~~AR 72. When addressing the requirements on products and materials disclosure, if and undertaking applies circular economy principles, it may provide additional information on the extent to which they are durable, recyclable and repairable.~~

~~AR 82. When reporting on the total amount of waste generated, the undertaking may also disclose the percentage of non-recycled waste (by weight and on a wet basis).~~³⁰

AR 73.

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

~~AR 83. Products and materials information to be provided under paragraph 62 refer to all products and materials that come out of the undertaking's production process and that a company puts on the market (including **packaging**).~~

AR 74. The undertaking may disclose its engagement in product end-of-life **waste management**, for example through extended producer responsibility schemes or take-back schemes.

~~AR 84-AR 75. When presenting information on its **waste** generation or diversion from disposal, the undertaking should preferably report such information in units of weight (e.g., kg or tonnes). Nevertheless, should it the units of weight be considered an inappropriate unit by the undertaking, they may alternatively disclose the afore-mentioned metrics in volumes (e.g., m3) instead.~~

~~AR 85-AR 76. When considering the **waste** streams relevant to its sectors or activities, the undertaking may consider the list of waste descriptions from the European Waste Catalogue. Waste marked with an asterisk (*) in the EWC is classified as hazardous, particularly if it contains substances with hazardous properties such as flammability, toxicity, or corrosiveness. Applicability depends on the presence of hazardous or radioactive materials in business processes.~~

AR 77. Examples of other types of disposal operations under paragraph 65 (iii) can be found in Annex I of Directive 2008/98/EC (Waste Framework Directive).

~~AR 78. When disclosing information on the total annual waste diverted to recycling or reuse, the undertaking should consider the waste that is sorted and sent to recycling or reuse operators (e.g., amount of waste put into recycling container, or sorting of waste into certain categories of materials and their delivery to waste treatment facilities), rather than the waste that gets effectively recycled or reused.~~

~~When providing contextual information under paragraph 64 the undertaking may:~~

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

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

³⁰ This information supports the information needs of financial market participants subject to Regulation (EU) 2019/2088 as reflecting an additional indicator related to principal adverse impacts as set out by indicator #13 in Table 2 of Annex 1 of the related Delegated Regulation with regard to disclosure rules on sustainable investments („Non-recycled waste ratio“).

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

~~— Undertakings must disclose hazardous waste, including radioactive waste, if their operations involve generating such waste. Applicability depends on the presence of hazardous, including radioactive materials, in business processes.~~

~~— When disclosing the radioactive waste ratio it should be calculated as a percentage of total hazardous waste using the formula:~~

~~—~~

~~AR 86. As an example: If a facility generates 2 tons of radioactive waste and 50 tons of hazardous waste, the radioactive waste ratio is $(2/50) \times 100 = 4\%$.~~

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

~~AR 87. When providing contextual information under paragraph 64 the undertaking may:~~

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

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

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

~~—~~

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

~~AR 79. For each of the environmental topics for which there are material risks, the undertaking may disclose:~~

~~a. a quantification of the anticipated financial effects in monetary terms, or where not possible with reasonable effort, qualitative information. The quantification of the anticipated financial effects in monetary terms may be a single amount or a range;~~

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

~~36. the critical assumptions used to quantify the anticipated financial effects, as well as the sources and level of uncertainty attached to those assumptions.~~

~~AR 80. In relation to the potential to benefit from material environmental-related opportunities, the undertaking may disclose its expected cost savings from environmental-related risk mitigation actions.~~

~~**AR 2.** Disclosure Requirement E6— Anticipated financial effects from material environmental-related matters other than climate~~

~~AR 81. The undertaking may include an assessment of its related products and services at risk over the short, medium and long-term, explaining how these are defined, how financial amounts are estimated, and which critical assumptions are made. The undertaking may also provide information on how it expects its financial position, financial performance and cash flows to change over the short, medium- and long-term, given its strategy to manage risks, taking into consideration:~~

~~AR 82. its investment and disposal plans (for example, capital expenditure, major acquisitions and divestments, joint ventures, business transformation, innovation, new business areas and asset retirements), including plans that the undertaking is not contractually committed to; and its planned sources of funding to implement its strategy.~~

~~— In alternative to disclosures in paragraph AR 6779 (-a) on the monetary quantification of anticipated financial effects, the undertaking may classify each anticipated financial effect according to the following ranges; (a) low; (b) medium; (c) high.~~

~~AR 83. As for the disclosure on material environmental-related risks, both physical and transition risks are to be considered, given their application across environmental topics and not being only limited to climate-related concerns. Examples of environmental-related (other than climate) physical and transition risks can be found in ESRS E2 AR 7. (for pollution), ESRS E3 AR 7. (for water), ESRS E4 AR 9. (for ecosystems and biodiversity) and ESRS E5 AR 5. (for circular economy).~~

~~AR 84. Considering anticipated financial effects due to material opportunities related to circular economy, the undertaking may, for instance, illustrate and describe how it intends to strengthen value retention.~~

~~AR 88.~~

~~AR 89. The undertaking may to consider as part of its anticipated financial effects related to pollution:~~

~~AR 85. Operating and capital expenditures related to incidents and deposits (e.g., interruptions of production resulting in pollution), which may include:~~

~~(a) i) costs of eliminating and remediating the respective pollution of air, water and soil including environmental protection;~~

~~a.(b) ii) damage compensation costs including payment of fines and penalties imposed by regulators or government authorities.~~

~~AR 90-AR 86. Costs related to the management of incidents which may include interruptions of production, whether arising from the supply chain and/or from own operations, which resulted in pollution.~~

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

~~Anticipated financial effects from material physical and transition risks~~

~~Calculation guidance – Anticipated financial effects from material physical risks~~

~~AR 91. When disclosing the information required under paragraphs 28(b) and 31, the undertaking may explain whether and how:~~

~~(jjjj) it assessed the **anticipated financial effects** for assets and business activities at material physical risk, including the scope of application, time horizons, calculation methodology, critical assumptions and parameters and limitations of the assessment; and~~

~~(kkkk) — the assessment of assets and business activities considered to be at material **physical risk** relies on or is part of the process to determine material physical risk as required under paragraphs 18(b) and AR 12 and to determine climate **scenarios** as required under paragraphs 19 and AR 13 to AR 14. It shall explain how it has defined medium and long-term time horizons and how these definitions are linked to the expected lifetime of the undertaking's assets, strategic planning horizons and capital allocation plans.~~

~~AR 92. When preparing the information on assets at material physical risk that is required to be disclosed under paragraph 31(a), the undertaking shall:~~

~~(llll) Calculate the assets at material physical risk in terms of monetary amount and as a proportion (percentage) of total assets at the reporting date (i.e., the proportion is an estimate of the carrying value of assets at material physical risk divided by total carrying value as stated in the statement of financial position or balance sheet). The estimate of assets at material physical risk shall be derived starting from the assets recognised in the financial statements. The estimate of monetary amounts and proportion of assets at physical risk may be presented as either a single amount or range.~~

~~(mmmm) — All types of assets including finance lease / right-of-use assets shall be considered when determining the assets at material physical risk.~~

(nnnn) — To contextualise this information, the undertaking shall:

~~xxx. — disclose the location of its significant assets at material physical risk. Significant assets located in the EU territory shall be aggregated by NUTS codes 1 level digits (Nomenclature of Territorial Units for Statistics). For significant assets located outside EU territory, the breakdown by NUTS code will only be provided where applicable.~~

~~xxxi. — disaggregate the monetary amounts of assets at risk by acute and chronic physical risk.~~

~~(oooo) — calculate the share of assets at material physical risk resulting from paragraph AR 31 (a) that is addressed by the **climate change adaptation actions** based on the information disclosed under Disclosure Requirement 11 (IR-3) — **Policies and actions in relation to sustainability matters** (Section 3).~~

~~AR 93. When preparing the information required under paragraph 31(a), the undertaking may assess and disclose the share of net revenue from business activities at physical risk. This disclosure:~~

~~(pppp) — shall be based on the net revenue in line with the requirements in accounting standards applied for financial statements, i.e., IFRS 15 or local GAAP.~~

~~(qqqq) — may include a breakdown of the undertaking's business activities with the corresponding details of the associated percentage of total net revenue, the risk factors (hazards, exposure and sensitivity) and, if possible, the magnitude of the **anticipated financial effects** in terms of margin erosion over the short-, medium- and long-term time horizons. The nature of business activities may also be disaggregated by operating segments if the undertaking has disclosed the contribution of margins by operational segments in its segment reporting in the financial statements.~~

~~Calculation guidance – Anticipated financial effects from transition risk~~

~~AR 94. When disclosing the information required under paragraphs and 31, the undertaking shall explain whether and how:~~

~~(rrrr) — 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~~

~~(ssss) — the assessment of assets and business activities considered to be at material transition risk relies on or is part of the process to determine material **transition risks** as described under AR 35(b), AR 37, AR 39, and AR 40 of [draft] Section 2 (Disclosure Requirement 9 (IR-1) **Description of the processes to identify and assess material impacts and risks**) and to determine **scenarios** as required under AR 39 to AR 40. It shall explain how it has defined medium- and long-term time horizons and how these definitions are linked to the expected lifetime of the undertaking's assets, strategic planning horizons and capital allocation plans.~~

~~AR 95. When disclosing the information on assets at material transition risk as required under paragraphs 32(a) and (b):~~

~~(tttt) the undertaking shall at the very least include an estimate of the amount of potentially stranded assets (in monetary amounts and as a proportion/percentage) from the reporting year until 2030 and from 2030 to 2050. Stranded assets are understood as active or firmly planned key assets of the undertaking with significant **locked-in GHG emissions** over their operating lifetime. Firmly planned key assets are those that the undertaking will most likely deploy within the next five years. The amount may be expressed as a range of asset values based on different climate and **policy scenarios**, including a scenario aligned with limiting climate change to 1.5°C.~~

~~(uuuu) — the undertaking may disclose a breakdown of the carrying value of its real estate assets, including rights-of-use assets, by energy efficiency classes. The energy efficiency shall be represented in terms of either the ranges of energy consumption in kWh/m² or the EPC (Energy~~

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

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

~~AR 96. When disclosing the information on potential liabilities from material **transition risks** required under paragraph 32(d):~~

~~(www) undertakings that operate **installations** regulated under an emission trading scheme may include a range of potential future liabilities originating from these schemes;~~

~~(xxxx) undertakings subject to the EU ETS, may disclose the potential future liabilities that relate to their allocation plans for the period before and until 2030. The potential liability may be estimated based on:~~

~~xxxii. — the number of allowances held by the undertaking at the beginning of the reporting period;~~

~~xxxiii. — the number of allowances to be purchased in the market yearly, i.e., before and until 2030;~~

~~xxxiv. — the gap between estimated future **emissions** under various transition **scenarios** and free allocations of allowances that are known for the period until 2030; and~~

~~xxxv. — the estimated yearly cost per tonne of CO₂ for which an allowance needs to be purchased;~~

~~(yyyy) In assessing its potential future liabilities, the undertaking may consider and disclose the number of Scope 1 GHG emission allowances within regulated emission trading schemes and the cumulative number of emission allowances stored (from previous allowances) at the beginning of the reporting period;~~

~~(zzzz) undertakings disclosing volumes of **carbon credits** planned to be cancelled in the near future (Disclosure Requirement E1-7) may disclose the potential future liabilities associated with those based on existing contractual agreements;~~

~~(aaaa) the undertaking may also include its monetised gross Scope 1, 2 and total GHG **emissions** (in monetary units) calculated as follows:~~

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

~~—~~

~~xxxvii. — monetised total GHG emissions in the reporting year by the following formula:~~

~~—~~

~~xxxviii. — 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.~~

~~AR 97. Other approaches and methodologies may be applied to assess how **transition risks** may affect the future financial position of the undertaking. In any case, the disclosure of **anticipated financial effects** shall include a description of the methodologies and definitions used by the undertaking.~~

~~AR 98. When preparing the information required under paragraph 32(c), the undertaking may assess and disclose the share of net revenue from business activities at **transition risks**. This disclosure:~~

~~(bbbb) — shall be based on the net revenue in line with the requirements in accounting standards applied for financial statements, i.e., IFRS 15 or local GAAP.~~

~~(cccc) — may include a breakdown of the undertaking's business activities with the corresponding details of the associated percentage of current net revenue, risk factors (events and exposure), and when possible, the **anticipated financial effects** related to margin erosion over the short-, medium- and long-term. The nature of business activities may also be disaggregated by operating segments if the undertaking has disclosed the contribution of margins by operational segments in its segment reporting in the financial statements.~~

Connectivity with financial reporting information

AR 99. ~~The reconciliation of the significant amount of assets, liabilities, and net revenue (vulnerable to either material **physical risks** or **transition risks**) to the relevant line item or disclosure (e.g., in segment reporting) in the financial statements (as required by paragraph 33) may be presented by the undertaking as follows:~~

~~(dddd) — as a cross-reference to the related line item or disclosure in the financial statements if these amounts are identifiable in the financial statements; or~~

~~(eeee) — If these cannot be directly cross-referenced, as a quantitative reconciliation of each to the relevant line item or disclosure in the financial statement using the below tabular format:~~

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

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

~~— For potential future effects on liabilities (as required by paragraph 32(d)), if applicable, the undertaking shall cross-reference the description of the emission trading schemes in the financial statements.~~

~~— Climate-related opportunities~~

~~— When disclosing the information under paragraph 35 (a), the undertaking may explain the nature of the cost savings (e.g., from reduced energy consumption), the time horizons and the methodology used, including the scope of the assessment, critical assumptions, and limitations, and whether and how **scenario analysis** was applied.~~

AR 100. ~~When disclosing the information required under paragraph 35 (b), the undertaking may explain how it has assessed the market size or any expected changes to net revenue from low-carbon products and services or adaptation solutions including the scope of the assessment, the time horizon, critical assumptions, and limitations and to what extent this market is accessible to the undertaking. The information on the market size may be put in perspective to the current taxonomy-aligned revenue disclosed under the provisions of Regulation (EU) 2020/852. The entity may also explain how it will pursue its climate-related **opportunities** and, where possible, this should be linked to the disclosures on **policies, targets** and **actions** under Disclosure Requirements E1-2, E1-3 and E1-4.~~

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Appendix A: Defined terms

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

Defined term	Definition