

The European Sustainability Reporting Standards and Opportunities for Financial Services



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The European Sustainability Reporting Standards and Opportunities for Financial Services

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Abstract: This white paper introduces the European Sustainability Reporting Standards (ESRS), which underpin the Corporate Sustainability Reporting Directive (CSRD); a core component of the EU's Sustainable Finance Framework. It introduces the key concepts of the standards, and breaks down the disclosure requirements of cross-cutting and topical standards, such as biodiversity and ecosystems so that:

1. Corporations have a better understanding of what they must produce to adhere to the standards; and
2. Financial Services have a better understanding of what metrics they will have available to them to better assess risk, develop new financial products and ease their own disclosure requirement burden, through a direct mapping of the ESRS-SFDR only datapoints provided in Annex A.
3. Prepares the reader for the data mapping of *White Paper 3: Mapping ESRS Disclosure Datapoints to Relevant Datasets* in the series, where specific topics and datapoints are mapped directly to relevant datasets that can be used as part of their analysis.

A key learning is that the ESRS disclosures will be provided in digitally tagged format, eXtensible Business Reporting Language (XBRL), simplifying reporting and presenting new opportunities across the Financial Services sector, such as enhanced investment analysis, including aggregation of sector/country level data and automated analysis, or integration into traditional analysis workflows.

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1. Introduction

Sustainability reporting is evolving into a regulated, data-rich process that requires companies to disclose information not only about how external factors affect their financial performance but also about how their operations impact the environment and society. This is known as double materiality. The European Sustainability Reporting Standards (ESRS), embedded within the Corporate Sustainability Reporting Directive (CSRD), operationalises this double materiality perspective.

This perspective is especially timely given the accelerating pressures of climate change on biodiversity, freshwater systems, and climate stability. As habitat degradation, invasive alien species, and other drivers of biodiversity losses escalate, and freshwater species populations continue to decline dramatically (WWF, 2024; Collen et al., 2013) the need for reliable, granular, and standardised ESG data intensifies.

The urgency of this need is further underscored by the commitments made under the Paris Agreement and the global effort to limit temperature rise to 1.5° Celsius above pre-industrial levels. As of 2024, the world is not on track to meet this target, with current policies projected to result in a best case warming of 2.6°C by 2100 (UNEP, 2024). This trajectory poses severe risks to ecosystems, human health, and economic stability, emphasising the critical role of accurate ESG data in driving meaningful climate action and sustainable development.

For the Financial Services sector, the ESRS unlock actionable insights that can guide portfolio alignment with sustainability goals, foster transparent risk management, and support the development of innovative financial products.

2. Key Concepts Within the ESRS

Double Materiality: At the core of the ESRS is the requirement to assess and disclose sustainability matters from two angles—impact and financial. Impact materiality focuses on the company’s positive or negative effects on people and the environment, while financial materiality considers how sustainability matters can trigger material financial effects on the company. By integrating both, double materiality ensures stakeholders—particularly those in Financial Services—receive a more complete picture of a company’s sustainability posture. Materiality is determined for both **actual** and **potential** impacts, risks and opportunities based on a combination of severity, scale, scope and likelihood of occurrence (for potential).

Impacts, Risks, and Opportunities (IRO): Double materiality assessments require companies to evaluate Impacts, Risks, and Opportunities (IRO). This process helps companies identify the critical ESG issues they face and prioritise actions accordingly. IRO assessments are designed to consider both the operational impacts on the environment and society of a company and the external risks and opportunities that may affect its financial resilience, based on the nature of the activities, business relationships, geographies or other factors concerned. Note that in the context of the ESRS, **impact** refers to positive and negative sustainability-related impacts that relate to the undertaking’s business, as identified through an impact materiality assessment and covers both actual and potential future impacts. Whereas **risks and opportunities** refer to the undertaking’s sustainability-related financial risks and opportunities, including those deriving from dependencies on natural, human and social resources. Note that the double materiality

assessment extends across the company's entire value chain and therefore requires a substantial effort on the company's part where they have a global supply chain.

Value Chains: Materiality assessments must consider the entire value chain, including upstream suppliers and downstream distribution. For financial institutions, this requirement opens the door to more holistic due diligence and portfolio analysis. Investors and asset managers gain insight into global supply chains, ensuring that environmental and social issues hidden deep within the value chain are brought to light. This is vital, as impacts risks and opportunities vary with geography. As an example, on the topic of nature and biodiversity loss, climate change is cited most often in Latin America and the Caribbean, whereas pollution is most reported in North America and Asia and the Pacific. Additionally, actions in one region can drive actions in another. The Living Planet Index highlights that Europe and Central Asia has the highest ecological footprint of consumption¹ of any Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) region. They far exceed their own biocapacity, meaning that they need to import resources from nature-rich regions around the world. (WWF, 2024; Rounsevell et al., 2018).

Time Horizons and Targets: Companies must disclose *impacts, risks, and opportunities* across *short, medium, and long-term horizons*. This forward-looking approach allows financial actors to better understand the temporal dimensions of ESG factors, supporting more informed, long-range investment strategies and risk assessments.

3. Understanding the ESRS Framework

The ESRS provide the technical specifications that companies need to follow when disclosing sustainability information. They are split into two cross-cutting standards and several topical standards covering environmental, social, and governance dimensions. While the CSRD makes sustainability reporting mandatory, the ESRS define the precise content of these disclosures. Many disclosures are dependent on a double materiality assessment except the general and minimum disclosure requirements, which must be reported regardless of the materiality assessment.

¹ecological footprint: a measure of the natural resources and ecosystem services that a country consumes

| Standard | Topic |
|----------|---|
| ESRS 1 | General Requirements (Cross cutting) |
| ESRS 2 | General Disclosures and Minimum Disclosure Requirements (MDR) (Cross Cutting) |
| E1 | Climate Change |
| E2 | Pollution |
| E3 | Water and Marine Resources |
| E4 | Biodiversity and Ecosystems |
| E5 | Resource Use and Circular Economy |
| S1 | Own Workforce |
| S2 | Workers in the Value Chain |
| S3 | Affected Communities |
| S4 | Consumers and End-users |
| G1 | Business Conduct |

Table 1 Cross cutting and topical standards

Within each of the standards, the topic is split into subtopics and sub-subtopics where

appropriate. The three levels of granularity are considered **sustainability matters**, such as:

| Standard | Topic | Sub-topic | Sub-sub-topic |
|----------|----------------------------|-----------|-------------------|
| E3 | Water and Marine Resources | Water | Water Consumption |

Table 2 The breakdown of standards into topics, sub-topics and sub-sub-topics

Each **sustainability matter** can have multiple **disclosure requirements**, and each of these disclosure requirements can have multiple **datapoints**, as is shown in Table 3, highlighting the granular level of detail required for the sustainability matter, water consumption.

| Disclosure requirement | Datapoints for Water Consumption | Data type |
|------------------------|--|--------------|
| E3.4 | Total water consumption | Volume |
| E3.4 | Total water consumption in areas at water risk, including areas of high-water stress | Volume |
| E3.4 | Total water recycled and reused | Volume |
| E3.4 | Total water stored | Volume |
| E3.4 | Changes in water storage | Volume |
| E3.4 | Disclosure of contextual information regarding water consumption | narrative |
| E3.4 | Share of the measure obtained from direct measurement, from sampling and extrapolation, or from best estimates | Percent |
| E3.4 | Water intensity ratio | Intensity |
| E3.4 | Water consumption- sectors/segments [table] | Table/Volume |
| E3.4 | Additional water intensity ratio | Percent |
| E3.4 | Total water withdrawals | Volume |
| E3.4 | Total water discharges | Volume |

Table 3 Breakdown of disclosures to showcase datapoints and their data types

Disclosure requirements for sustainability matter - water consumption

| Minimum Disclosure Requirements for Policies, Actions, Targets and Metrics (MDR-PATM) | Datapoints |
|---|------------|
| MDR-Policies | 6 |
| MDR-Actions | 12 |
| MDR-Targets | 13 |
| MDR-Metrics | 3 |

Table 4 Minimum Disclosure Requirements (MDR) per sustainability matter

As part of a double materiality assessment, the company must assess each matter and determine whether it is material or not. If material, it must evaluate and assess the impacts, risks and opportunities, and disclose the results, using the relevant material datapoints, of the materiality assessment. Additionally, for every sustainability matter that is deemed material, there are specific minimum disclosure requirements on **policies, actions, targets and metrics**.

Ultimately, this forces the company to put a plan in place to demonstrate **how** it will methodically deal with the impact, risk or opportunity, the **actions** that it will take, the **targets** set and the **metrics** that it will track on the course to remediation. Table 4 shows the required disclosures for every sustainability matter.

As an example, this means that if an organisation deems the sustainability matter **Water Consumption** to be material, they will have to disclose up to 12 datapoints related to water consumption + 34 datapoints related to **policies, actions, targets and metrics** if they

have established these. Note that each disclosure requirement can also be assessed as part of the materiality assessment to determine if that specific disclosure point is material. If not, they do not have to disclose that specific datapoint. If they have not implemented **policies, actions, targets, metrics** to deal with the specific material matter, then they will disclose this and may specify a timeframe as to when these will be in place. Within each topical standard, there are datapoints that are mandatory (irrespective of a double materiality assessment) and those that are required, subject to a double materiality assessment. The summary of mandatory and non-mandatory datapoints are highlighted in Table 5.

| ESRS | Irrespective of Materiality Assessment | Subject to Materiality Assessment | Total |
|---------------------------------------|--|-----------------------------------|------------|
| ESRS 2 | 127 | | 127 |
| E1: Climate Change | 16 | 171 | 187 |
| E2: Pollution | 3 | 41 | 44 |
| E3: Water and Marine Resources | 2 | 25 | 27 |
| E4: Biodiversity and Ecosystems | 11 | 43 | 54 |
| E5: Resource Use and Circular Economy | 2 | 40 | 42 |
| S1: Own Workforce | | 127 | 127 |
| S2: Workers in the Value Chain | | 47 | 47 |
| S3: Affected Communities | | 45 | 45 |
| S4: Consumers and End-users | | 44 | 44 |
| G1: Business Conduct | | 39 | 39 |
| Total Datapoints | 161 (20.6%) | 622 (79.4%) | 783 (100%) |

Table 5 Required datapoints split by topical standard, excluding the Minimum Disclosure Requirements for Policies, Actions, Targets and Metrics

The datapoints can also be broken down by datatype. These are split into categories of narrative, semi-narrative and numerical. **Narrative** generally means textual data but can

also include images and is not restricted in length. **Semi-narrative** includes datatypes that can be used to enrich text blocks, such as Boolean types (yes/no, 1/0) or enumeration

(selecting from a predefined list). **Numerical** covers all quantitative types, including dates, areas, integers, monetary values etc. Figure 1 breaks down each topical standard by the disclosure datatype. Generally, the disclosures are driven by narrative datatypes, except for E1-Climate Change, which contains the most datapoints overall, and is driven by numerical datapoints. The other environmental topical standards are driven by narrative datapoints. E4-Biodiversity and Ecosystems has the fewest numerical datapoints and predominately requires narrative disclosures. E3-Water and Marine Resources has the least disclosure datapoints of all standards. While narrative datapoints are primarily textual, upon review it was found that many of the narrative answers also require an analytical assessment to produce the narrative disclosure. This is demonstrated in Figure 2, which clearly asks for metrics but mandates a narrative disclosure. This is important when considering the data required to produce these

disclosures. This is discussed in *White Paper 3: Mapping ESRS disclosure datapoints to relevant datasets* of this series. This specific example also highlights where geospatial data, such as satellite data, could be useful in tracking large-scale change, over long time periods.

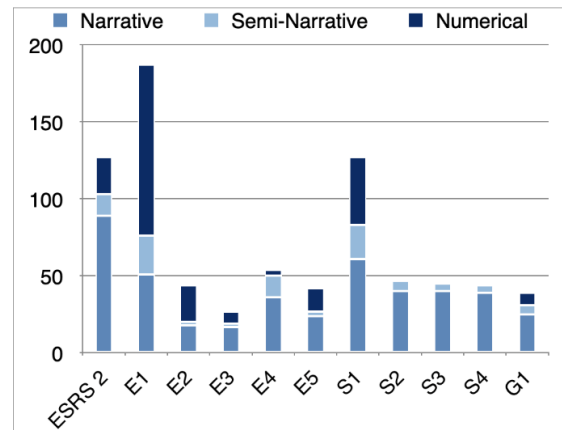


Figure 1 Each topical standard broken down by disclosure datatype

E4-38: If the undertaking has concluded that it directly contributes to the **impact drivers of land-use change, freshwater-use change and/or sea-use change**, it shall report relevant **metrics**. The undertaking may disclose metrics that measure:

- A. the conversion over time (e.g. 1 or 5 years) of land cover (e.g. deforestation or mining);
- B. 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);
- C. changes in the spatial configuration of the landscape (e.g. fragmentation of habitats, changes in ecosystem connectivity);
- D. changes in ecosystem structural connectivity (e.g. habitat permeability based on physical features and arrangements of habitat patches); and
- E. the functional connectivity (e.g. how well genes or individuals move through land, freshwater and seascape).

Figure 2 Example of narrative disclosure which requires numerical metrics

4. SECTOR-SPECIFIC

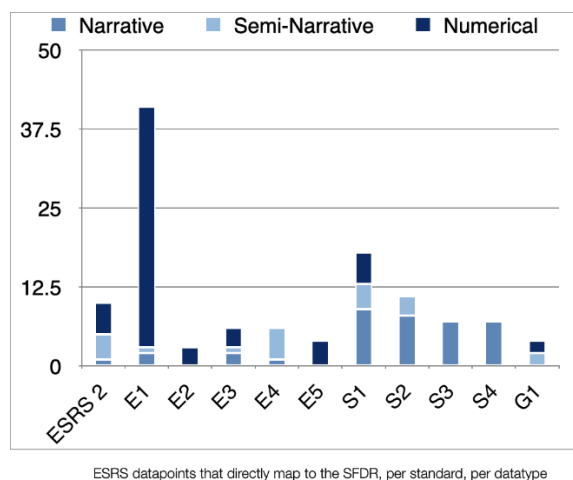
The current release of the ESRS discussed in this white paper is sector agnostic, however EFRAG have plans to release sector-specific guidance. Table 6 shows the sectors that will

receive specific guidance, with the table ordered by those sectors for which standards will become available first. The table indicates that there will be specific guidance for Financial Institutions but there are currently limited details on what those standards may include.

| Sector | Current Phase |
|---|----------------------------|
| Oil and Gas | Approval of Exposure Draft |
| Mining, quarrying and coal mining | Approval of Exposure Draft |
| Road transport | Validating |
| Textiles, accessories, footwear and jewellery | Validating |
| Financial Institutions | Early Draft - Research |
| Agriculture, farming and fishing | Early Draft - Research |
| Motor vehicles | Early Draft - Research |
| Energy production and utilities | Early Draft - Research |
| Food and Beverage | Early Draft - Research |

Table 6 The current state of ESRS sector-specific standards (Q4, 2024)

5. The link between the ESRS and SFDR



As was detailed in the first white paper of this series, The EU Green Deal and the Sustainable Finance Framework, the SFDR applies to two types of financial products: those promoting environmental or social characteristics (Article 8), and those with sustainable investment as their objective (Article 9). While all disclosures (dependent on a materiality assessment) will be available to the financial services sector for analysis, there are certain disclosures that map directly to the SFDR. This therefore reduces the reporting burden of the Financial Services sector under the SFDR. The mapped disclosures and associated datapoints are provided in the annex, detailing the ESRS, Disclosure Requirement (DR), relevant paragraph from the standard, the datapoint name and data type.

6. Data Standardisation and XBRL

A significant benefit of the ESRS is the introduction of digitally tagged, machine-readable disclosures, provided in eXtensible Business Reporting Language (XBRL). Historically, ESG information was dispersed across annual reports and sustainability reports. This was often in narrative form with no digital tagging, making it difficult to

compare and aggregate. By mandating a digital, standardised format, the ESRS aim to streamline data processing, enhance transparency, and support automated analysis.

For Financial Services, XBRL compliance means digital access to consistent, materiality-based datapoints that can be integrated into risk models, analytics platforms, and due diligence workflows. With data in a standardised digital format, investment analysts can compare the sustainability performance of multiple companies, assess sectoral trends, and identify outliers. This shift dramatically reduces the time and cost associated with ESG data collection and processing, accelerating the move toward data-driven decision-making in sustainable finance.

7. Opportunities for the Financial Services Sector

Adopting the ESRS framework transforms sustainability reporting into a strategic asset for the financial services sector. By receiving standardised, materiality-based data on environmental and social factors, financial institutions can:

Improve Risk Management: With more reliable and granular ESG data, financial actors can refine their risk models to incorporate sustainability factors. For example, understanding how climate change adaptation measures or water usage in areas of drought risk impacts a company's long-term resilience can influence loan pricing, investment allocations, and insurance premiums.

Enhance Investment Analysis: Consistent data formats allow for aggregated assessments of entire sectors, countries, or portfolios. ESG ratings, indexes, and screening tools can be more accurate and timelier, enabling investors to identify emerging ESG leaders, detect early signs of compliance issues, and anticipate sustainability-related cost pressures.

Historical and near real-time external audit: More reliable and granular data disclosed

digitally through double materiality assessments may enable near real-time external audits of company disclosures. Geospatial data sources, such as satellite data, can validate granular company data, tracking progress on **policies, actions, targets, and metrics** between official disclosure dates. For example, satellite observations can aggregate greenhouse gas emissions at the company level, allowing auditors to verify historical disclosures and investors to assess progress towards **targets**. This approach enhances investment analysis and accountability.

Innovate Product Offerings: Access to high-quality, comparable sustainability data supports the development of new financial products and services tailored to investor demand for green bonds, sustainability-linked loans, or climate-resilient insurance products. It enables financial institutions to differentiate their offerings and align them with evolving regulatory and market expectations.

Align With Regulatory Requirements: Since the SFDR relies on company disclosures emerging from the CSRD, compliance with ESRS-based reporting provides a stable foundation for financial market participants to meet their own disclosure obligations. This interconnected system should introduce consistency and ease of compliance, reducing the operational burden and improving investor confidence.

8. The EU OMNIBUS (As of February 2025)

As was discussed in *White Paper 1: The EU Green Deal and the Sustainable Finance Framework*, the EU is in the process of streamlining regulatory frameworks across Europe (European Commission, 2025). This is likely to have a significant impact on the European Sustainability Reporting Standards, such as reduction in number of datapoints and merging of similar datapoints. While the exact scope and scale of these changes is not yet

released, the Financial Regulation Innovation Lab (FRIL) will provide detailed analysis once the official announcement is made.

9. Conclusion

The European Sustainability Reporting Standards represent a watershed moment in sustainability reporting. By embedding double materiality, defining minimum disclosures, and introducing machine-readable formats, the ESRS enable a flow of reliable, actionable information into the hands of the Financial Services sector. With better data at their disposal, financial institutions can more confidently integrate sustainability into their decision-making, develop innovative products, and ultimately contribute to the broader goals of the EU Green Deal.

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ANNEX - ESRS - SFDR MAPPED DISCLOSURE DATAPOINTS

| ESRS | DR | Paragraph | Name | Data Type | SFDR reference |
|--------|-------|-------------|--|--------------------|--|
| ESRS 2 | GOV-1 | 21 d | <u>Board's gender diversity ratio</u> | Percent | Indicator number 13 of Table #1 of Annex 1 |
| ESRS 2 | GOV-1 | 21 e | <u>Percentage of independent board members</u> | Percent | |
| ESRS 2 | GOV-4 | 30; 32 | <u>Disclosure of mapping of information provided in sustainability statement about due diligence process</u> | narrative | Indicator number 10 Table #3 of Annex 1 |
| ESRS 2 | SBM-1 | 40 d i | <u>Undertaking is active in fossil fuel (coal, oil and gas) sector</u> | semi-narrative | Indicators number 4 Table #1 of Annex 1 |
| ESRS 2 | SBM-1 | 40 d ii | <u>Undertaking is active in chemicals production</u> | semi-narrative | Indicators number 4 Table #1 of Annex 1 |
| ESRS 2 | SBM-1 | 40 d ii | <u>Revenue from chemicals production</u> | Monetary | |
| ESRS 2 | SBM-1 | 40 d iii | <u>Undertaking is active in controversial weapons</u> | semi-narrative | Indicator number 14 Table #1 of Annex 1 |
| ESRS 2 | SBM-1 | 40 d iii | <u>Revenue from controversial weapons</u> | Monetary | |
| ESRS 2 | SBM-1 | 40 d iv | <u>Undertaking is active in cultivation and production of tobacco</u> | semi-narrative | |
| ESRS 2 | SBM-1 | 40 d iv | <u>Revenue from cultivation and production of tobacco</u> | Monetary | |
| E1 | E1-4 | 34 a + 34 b | <u>Absolute value of total Greenhouse gas emissions reduction</u> | Table/ghgEmissions | Indicator number 4 Table #2 of Annex 1 |
| E1 | E1-4 | 34 a + 34 b | <u>Percentage of total Greenhouse gas emissions reduction (as of emissions of base year)</u> | Table/percent | |
| E1 | E1-4 | 34 a + 34 b | <u>Intensity value of total Greenhouse gas emissions reduction</u> | Table/decimal | |
| E1 | E1-4 | 34 a + 34 b | <u>Absolute value of Scope 1 Greenhouse gas emissions reduction</u> | Table/ghgEmissions | |
| E1 | E1-4 | 34 a + 34 b | <u>Percentage of Scope 1 Greenhouse gas emissions reduction (as of emissions of base year)</u> | Table/percent | |
| E1 | E1-4 | 34 a + 34 b | <u>Intensity value of Scope 1 Greenhouse gas emissions reduction</u> | Table/decimal | |
| E1 | E1-4 | 34 a + 34 b | <u>Absolute value of location-based Scope 2 Greenhouse gas emissions reduction</u> | Table/ghgEmissions | |

| ESRS | DR | Paragraph | Name | Data Type | SFDR reference |
|------|------|-------------|---|--------------------|---|
| E1 | E1-4 | 34 a + 34 b | <u>Percentage of location-based Scope 2 Greenhouse gas emissions reduction (as of emissions of base year)</u> | Table/percent | Indicator number 5 Table #1 of Annex 1 |
| E1 | E1-4 | 34 a + 34 b | <u>Intensity value of location-based Scope 2 Greenhouse gas emissions reduction</u> | Table/decimal | |
| E1 | E1-4 | 34 a + 34 b | <u>Absolute value of market-based Scope 2 Greenhouse gas emissions reduction</u> | Table/ghgEmissions | |
| E1 | E1-4 | 34 a + 34 b | <u>Percentage of market-based Scope 2 Greenhouse gas emissions reduction (as of emissions of base year)</u> | Table/percent | |
| E1 | E1-4 | 34 a + 34 b | <u>Intensity value of market-based Scope 2 Greenhouse gas emissions reduction</u> | Table/decimal | |
| E1 | E1-4 | 34 a + 34 b | <u>Absolute value of Scope 3 Greenhouse gas emissions reduction</u> | Table/ghgEmissions | |
| E1 | E1-4 | 34 a + 34 b | <u>Percentage of Scope 3 Greenhouse gas emissions reduction (as of emissions of base year)</u> | Table/percent | |
| E1 | E1-4 | 34 a + 34 b | <u>Intensity value of Scope 3 Greenhouse gas emissions reduction</u> | Table/decimal | |
| E1 | E1-5 | 37 | <u>Total energy consumption related to own operations</u> | energy | |
| E1 | E1-5 | 37 a | <u>Total energy consumption from fossil sources</u> | energy | |
| E1 | E1-5 | 37 b | <u>Total energy consumption from nuclear sources</u> | energy | |
| E1 | E1-5 | 37 c | <u>Total energy consumption from renewable sources</u> | energy | |
| E1 | E1-5 | 37 c i | <u>Fuel consumption from renewable sources</u> | energy | |
| E1 | E1-5 | 37 c ii | <u>Consumption of purchased or acquired electricity, heat, steam, and cooling from renewable sources</u> | energy | |
| E1 | E1-5 | 37 c iii | <u>Consumption of self-generated non-fuel renewable energy</u> | energy | |
| E1 | E1-5 | 38 a | <u>Fuel consumption from coal and coal products</u> | energy | Indicator number 5 Table #1 and Indicator n. 5 Table #2 of Annex 1 |
| E1 | E1-5 | 38 b | <u>Fuel consumption from crude oil and petroleum products</u> | energy | |
| E1 | E1-5 | 38 c | <u>Fuel consumption from natural gas</u> | energy | |
| E1 | E1-5 | 38 d | <u>Fuel consumption from other fossil sources</u> | energy | |

| ESRS | DR | Paragraph | Name | Data Type | SFDR reference |
|------|------|------------|--|--------------------|--|
| E1 | E1-5 | 38 e | <u>Consumption of purchased or acquired electricity, heat, steam, or cooling from fossil sources</u> | energy | Indicator number 6 Table #1 of Annex 1 |
| E1 | E1-5 | 40 | <u>Energy intensity from activities in high climate impact sectors (total energy consumption per net revenue)</u> | percent | |
| E1 | E1-5 | 41 | <u>Total energy consumption from activities in high climate impact sectors</u> | Intensity | |
| E1 | E1-5 | 42 | <u>High climate impact sectors used to determine energy intensity</u> | semi-narrative | |
| E1 | E1-5 | 43 | <u>Disclosure of reconciliation to relevant line item or notes in financial statements of net revenue from activities in high climate impact sectors</u> | narrative | |
| E1 | E1-6 | 48 a | <u>Gross Scope 1 greenhouse gas emissions</u> | Table/GhgEmissions | Indicators number 1 and 2 Table #1 of Annex 1 |
| E1 | E1-6 | 48 b | <u>Percentage of Scope 1 GHG emissions from regulated emission trading schemes</u> | Table/Percent | |
| E1 | E1-6 | 49 a, 52 a | <u>Gross location-based Scope 2 greenhouse gas emissions</u> | Table/GhgEmissions | |
| E1 | E1-6 | 49 b, 52 b | <u>Gross market-based Scope 2 greenhouse gas emissions</u> | Table/GhgEmissions | |
| E1 | E1-6 | 51 | <u>Gross Scope 3 greenhouse gas emissions</u> | Table/GhgEmissions | |
| E1 | E1-6 | 44, 52 a | <u>Total GHG emissions location based</u> | Table/GhgEmissions | |
| E1 | E1-6 | 44, 52 b | <u>Total GHG emissions market based</u> | Table/GhgEmissions | |
| E1 | E1-6 | 53 | <u>GHG emissions intensity, location-based (total GHG emissions per net revenue)</u> | Intensity | |
| E1 | E1-6 | 53 | <u>GHG emissions intensity, market-based (total GHG emissions per net revenue)</u> | Intensity | |
| E1 | E1-6 | 55 | <u>Disclosure of reconciliation to financial statements of net revenue used for calculation of GHG emissions intensity</u> | narrative | |
| E2 | E2-4 | 28 a | <u>Emissions to air by pollutant</u> | Table/mass | Indicator number 8 Table #1 of Annex 1 |
| E2 | E2-4 | 28 a | <u>Emissions to water by pollutant [+ by sectors/Geographical Area/Type of source/Site location]</u> | Table/mass | Indicator number 2 Table #2 of Annex 1 Indicator number 1 |

| ESRS | DR | Paragraph | Name | Data Type | SFDR reference |
|------|----------|-----------|--|----------------|--|
| E2 | E2-4 | 28 a | <u>Emissions to soil by pollutant [+ by sectors/Geographical Area/Type of source/Site location]</u> | Table/mass | Table #2 of Annex 1 Indicator number 3 Table #2 of Annex 1 |
| E3 | E3-1 | 11 | <u>Policies to manage its material impacts, risks and opportunities related to water and marine resources [see ESRS 2 MDR-P]</u> | MDR-P | Indicator number 7 Table #2 of Annex 1 |
| E3 | E3-1 | 13 | <u>Disclosure of reasons for not having adopted policies in areas of high-water stress</u> | narrative | Indicator number 8 Table 2 of Annex 1 |
| E3 | E3-1 | 13 | <u>Disclosure of timeframe in which policies in areas of high-water stress will be adopted</u> | narrative | |
| E3 | E3-1 | 14 | <u>Policies or practices related to sustainable oceans and seas have been adopted</u> | semi-narrative | Indicator number 12 Table #2 of Annex 1 |
| E3 | E3-4 | 28 c | <u>Total water recycled and reused</u> | Volume | Indicator number 6.2 Table #2 of Annex 1 |
| E3 | E3-4 | 29 | <u>Water intensity ratio</u> | Intensity | Indicator number 6.1 Table #2 of Annex 1 |
| E4 | E4.SBM-3 | 16 a i | <u>Disclosure of activities negatively affecting biodiversity sensitive areas</u> | narrative | Indicator number 7 Table #1 of Annex 1 |
| E4 | E4.SBM-3 | 16 b | <u>Material negative impacts with regards to land degradation, desertification or soil sealing have been identified</u> | semi-narrative | Indicator number 10 Table #2 of Annex 1 |
| E4 | E4.SBM-3 | 16 c | <u>Own operations affect threatened species</u> | semi-narrative | Indicator number 14 Table #2 of Annex 1 |
| E4 | E4-2 | 24 b | <u>Sustainable land or agriculture practices or policies have been adopted</u> | semi-narrative | Indicator number 11 Table #2 of Annex 1 |

| ESRS | DR | Paragraph | Name | Data Type | SFDR reference |
|------|----------|-----------|--|----------------|---|
| E4 | E4-2 | 24 c | <u>Sustainable oceans or seas practices or policies have been adopted</u> | semi-narrative | Indicator number 12 Table #2 of Annex 1 |
| E4 | E4-2 | 24 d | <u>Policies to address deforestation have been adopted</u> | semi-narrative | Indicator number 15 Table #2 of Annex 1 |
| E5 | E5-5 | 37 d | <u>Non-recycled waste</u> | Mass | Indicator number 13 Table #2 of Annex 1 |
| E5 | E5-5 | 37 d | <u>Percentage of non-recycled waste</u> | Percent | |
| E5 | E5-5 | 39 | <u>Total amount of hazardous waste</u> | Mass | Indicator number 9 Table #1 of Annex 1 |
| E5 | E5-5 | 39 | <u>Total amount of radioactive waste</u> | Mass | |
| S1 | S1.SBM-3 | 14 f i | <u>Information about type of operations at significant risk of incidents of forced labour or compulsory labour</u> | narrative | Indicator number 13 Table #3 of Annex I |
| S1 | S1.SBM-3 | 14 f ii | <u>Information about countries or geographic areas with operations considered at significant risk of incidents of forced labour or compulsory labour</u> | narrative | |
| S1 | S1.SBM-3 | 14 g i | <u>Information about type of operations at significant risk of incidents of child labour</u> | narrative | Indicator number 12 Table #3 of Annex I |
| S1 | S1.SBM-3 | 14 g ii | <u>Information about countries or geographic areas with operations considered at significant risk of incidents of child labour</u> | narrative | |
| S1 | S1-1 | 20 | <u>Description of relevant human rights policy commitments relevant to own workforce</u> | narrative | Indicator number 9 Table #3 and Indicator number 11 Table #1 of Annex I |
| S1 | S1-1 | 20a | <u>Disclosure of general approach in relation to respect for human rights including labour rights, of people in its own workforce</u> | narrative | |
| S1 | S1-1 | 20b | <u>Disclosure of general approach in relation to engagement with people in its own workforce</u> | narrative | |
| S1 | S1-1 | 20c | <u>Disclosure of general approach in relation to measures to provide and (or) enable remedy for human rights impacts</u> | narrative | |
| S1 | S1-1 | 21 | <u>Disclosure of whether and how policies are aligned with relevant internationally recognised instruments</u> | narrative | |
| S1 | S1-1 | 22 | <u>Policies explicitly address trafficking in human beings, forced labour or compulsory labour and child labour</u> | semi-narrative | Indicator number 11 Table #3 of Annex I |

| ESRS | DR | Paragraph | Name | Data Type | SFDR reference |
|------|----------|-----------|---|----------------|---|
| S1 | S1-1 | 23 | <u>Workplace accident prevention policy or management system is in place</u> | semi-narrative | Indicator number 1 Table #3 of Annex I |
| S1 | S1-3 | 32 c | <u>Grievance or complaints handling mechanisms related to employee matters exist</u> | semi-narrative | Indicator number 5 Table #3 of Annex I |
| | | | | | MISSING |
| S1 | S1-16 | 97 a | <u>Gender pay gap</u> | Percent | Indicator number 12 Table #1 of Annex I |
| S1 | S1-16 | 97 b | <u>Annual total remuneration ratio</u> | Percent | Indicator number 8 Table #3 of Annex I |
| S1 | S1-17 | 103 a | <u>Number of incidents of discrimination [table]</u> | Table | Indicator number 7 Table #3 of Annex I |
| S1 | S1-17 | 104 a | <u>Number of severe human rights issues and incidents connected to own workforce</u> | Integer | Indicator number 10 Table #1 and Indicator n. 14 Table #3 of Annex I |
| S1 | S1-17 | 104 a | <u>Number of severe human rights issues and incidents connected to own workforce that are cases of non-respect of UN Guiding Principles and OECD Guidelines for Multinational Enterprises</u> | Integer | |
| S1 | S1-17 | 104 a | <u>No severe human rights issues and incidents connected to own workforce have occurred</u> | semi-narrative | |
| S2 | S2.SBM-3 | 11 b | <u>Disclosure of geographies or commodities for which there is significant risk of child labour, or of forced or compulsory labour, among workers in undertaking's value chain</u> | narrative | Indicators number 12 and n. 13 Table #3 of Annex I |
| S2 | S2-1 | 17 | <u>Description of relevant human rights policy commitments relevant to value chain workers</u> | narrative | Indicator number 9 Table #3 and Indicator n. 11 Table #1 of Annex 1 |
| S2 | S2-1 | 17a | <u>Disclosure of general approach in relation to respect for human rights relevant to value chain workers</u> | narrative | |
| S2 | S2-1 | 17b | <u>Disclosure of general approach in relation to engagement with value chain workers</u> | narrative | |
| S2 | S2-1 | 17 c | <u>Disclosure of general approach in relation to measures to provide and (or) enable remedy for human rights impacts</u> | narrative | |
| S2 | S2-1 | 18 | <u>Policies explicitly address trafficking in human beings, forced labour or compulsory labour and child labour</u> | semi-narrative | |
| S2 | S2-1 | 18 | <u>Undertaking has supplier code of conduct</u> | semi-narrative | Indicator number 11 and n. 4 Table #3 of Annex 1 |

| ESRS | DR | Paragraph | Name | Data Type | SFDR reference |
|------|------|-----------|---|----------------|--|
| S2 | S2-1 | AR 15 | <u>Provisions in supplier codes of conduct are fully in line with applicable ILO standards</u> | semi-narrative | |
| S2 | S2-1 | 19 | <u>Disclosure of whether and how policies are aligned with relevant internationally recognised instruments</u> | narrative | Indicator number 10 Table #1 of Annex 1 |
| S2 | S2-1 | 19 | <u>Disclosure of extent and indication of nature of cases of non-respect of the UN Guiding Principles on Business and Human Rights, ILO Declaration on Fundamental Principles and Rights at Work or OECD Guidelines for Multinational Enterprises that involve value chain workers</u> | narrative | |
| S2 | S2-4 | 36 | <u>Disclosure of severe human rights issues and incidents connected to upstream and downstream value chain</u> | narrative | Indicator number 14 Table #3 of Annex 1 |
| S3 | S3-1 | 16 | <u>Description of relevant human rights policy commitments relevant to affected communities</u> | narrative | Indicator number 9 Table #3 of Annex 1 and Indicator number 11 Table #1 of Annex 1 |
| S3 | S3-1 | 16 a | <u>Disclosure of general approach in relation to respect for human rights of communities, and indigenous peoples specifically</u> | narrative | |
| S3 | S3-1 | 16 b | <u>Disclosure of general approach in relation to engagement with affected communities</u> | narrative | |
| S3 | S3-1 | 16 c | <u>Disclosure of general approach in relation to measures to provide and (or) enable remedy for human rights impacts</u> | narrative | |
| S3 | S3-1 | 17 | <u>Disclosure of whether and how policies are aligned with relevant internationally recognised instruments</u> | narrative | Indicator number 10 Table #1 Annex 1 |
| S3 | S3-1 | 17 | <u>Disclosure of extent and indication of nature of cases of non-respect of the UN Guiding Principles on Business and Human Rights, ILO Declaration on Fundamental Principles and Rights at Work or OECD Guidelines for Multinational Enterprises that involve affected communities</u> | narrative | |
| S3 | S3-4 | 36 | <u>Disclosure of severe human rights issues and incidents connected to affected communities</u> | narrative | Indicator number 14 Table #3 of Annex 1 |
| S4 | S4-1 | 16 | <u>Description of relevant human rights policy commitments relevant to consumers and/or end-users</u> | narrative | Indicator number 9 Table #3 and Indicator number 11 Table #1 of Annex 1 |
| S4 | S4-1 | 16 a | <u>Disclosure of general approach in relation to respect for human rights of consumers and end-users</u> | narrative | |
| S4 | S4-1 | 16 b | <u>Disclosure of general approach in relation to engagement with consumers and/or end-users</u> | narrative | |
| S4 | S4-1 | 16 c | <u>Disclosure of general approach in relation to measures to provide and (or) enable remedy for human rights impacts</u> | narrative | |

| ESRS | DR | Paragraph | Name | Data Type | SFDR reference |
|------|------|-----------|---|----------------|---|
| S4 | S4-1 | 17 | <u>Description of whether and how policies are aligned with relevant internationally recognised instruments</u> | narrative | Indicator number 10 Table #1 of Annex 1 |
| S4 | S4-1 | 17 | <u>Disclosure of extent and indication of nature of cases of non-respect of the UN Guiding Principles on Business and Human Rights, ILO Declaration on Fundamental Principles and Rights at Work or OECD Guidelines for Multinational Enterprises that involve consumers and/or end-users</u> | narrative | |
| S4 | S4-4 | 35 | <u>Disclosure of severe human rights issues and incidents connected to consumers and/or end-users</u> | narrative | Indicator number 14 Table #3 of Annex 1 |
| G1 | G1-1 | 10 b | <u>No policies on anti-corruption or anti-bribery consistent with United Nations Convention against Corruption are in place</u> | semi-narrative | Indicator number 15 Table #3 of Annex 1 |
| G1 | G1-1 | 10 d | <u>No policies on protection of whistle-blowers are in place</u> | semi-narrative | Indicator number 6 Table #3 of Annex 1 |
| G1 | G1-4 | 24 a | <u>Number of convictions for violation of anti-corruption and anti- bribery laws</u> | Integer | Indicator number 17 Table #3 of Annex 1 |
| G1 | G1-4 | 24 a | <u>Amount of fines for violation of anti-corruption and anti- bribery laws</u> | Monetary | Indicator number 16 Table #3 of Annex 1 |

Table 7 ESRS – SFDR disclosure datapoint mapping

About the Author



Dr Steven Owens is a member of the Financial Regulation Innovation Lab and the Applied Space Technology Lab at the University of Strathclyde. His work combines geospatial data and AI to address real-world challenges in environmental compliance and sustainability, with a particular focus on Environmental, Social and Governance (ESG) regulations and frameworks such as the EU Regulation on Deforestation (EUDR), the Corporate Sustainability Reporting Directive (CSRD) and The Taskforce on Nature-Related Financial Disclosures (TNFD). With focus on the Social aspect of

ESG regulations, he has recently led efforts to analyse the impact of deforestation on indigenous communities in the Brazilian Amazon due to mineral extraction. Prior to joining Strathclyde, Steve held a leadership role at a geospatial technology firm helping financial services integrate geospatial data into their daily operations. He holds a PhD in space technology, and has been working with industry to gain insights data for over a decade.

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