

This paper has been prepared by the EFRAG Secretariat for discussion at a public meeting of EFRAG SR TEG. The paper forms part of an early stage of the development of a potential EFRAG position. Consequently, the paper does not represent the official views of EFRAG or any individual member of the EFRAG SRB or EFRAG SR TEG. The paper is made available to enable the SRT members to follow the discussions in the meeting. Given that the first sector-specific working paper is Mining, Quarrying and Coal, the purpose of this paper is twofold. On the one hand, to have the first discussion on the architecture and approach on sector-specific working papers and, on the other, to discuss the technical content for Mining, Quarrying and Coal.

Exposure draft for
ESRS Mining, Quarrying and Coal
FOR SR TEG DISCUSSION

DISCLAIMER

The exposure draft Mining, Quarrying and Coal is set out in paragraphs X-X and Appendices A: Defined Terms and B: Application Requirements. Appendices A and B have the same authority as the main body of the [draft] Standard. Each Disclosure Requirement is stated in a bold paragraph that illustrates the objective of the disclosures. This exposure draft also uses terms defined in other [draft] ESRS and shall be read in the context of its objective.

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Objective

1. The objective of this [draft] ESRS is to specify Disclosure Requirements applicable to all undertakings within the Mining, Quarrying and Coal Sector that are additional to the sector-agnostic ESRS disclosures. They address impacts, risks and opportunities not covered, or not sufficiently covered, by sector-agnostic Disclosure Requirements and have to be applied in conjunction with them.
2. In addition, this [draft] ESRS also specifies Mining, Quarrying and Coal sector specific application requirements to existing sector-agnostic disclosure requirements, which should be taken in consideration by the undertaking in the preparation of their sustainability disclosures.
3. The Disclosure Requirements in this [draft] ESRS cover information which purpose is to enable users of the sustainability statements to understand the undertaking's material impacts, as well as related material risks and opportunities arising with regard to a list of sustainability matters that are material for the undertakings operating in the Mining, Quarrying and Coal Sector.
4. This [draft] Standard requires undertakings operating in the sector to disclose:
 - (a) the material actual or potential, positive or negative impacts in relation the environmental, social and governance matters that are material for the Mining, Quarrying and Coal Sector;
 - (b) actions taken to prevent or mitigate actual or potential material negative impacts and the result of such actions;
 - (c) the nature, type and extent of the undertaking's material risks and opportunities related to its impacts and dependencies in relation to the list of matters that are material for the Mining, Quarrying and Coal Sector (as identified in appendix C of this [draft] ESRS), and how the undertaking manages them; and
 - (d) the financial effects on the undertaking over the short-, medium- and long-term time horizons of material risks and opportunities.

Interaction with other ESRS

5. This Mining, Quarrying and Coal sector [draft] ESRS identifies a list of matters that shall be addressed mandatorily, irrespective of the outcome of their materiality assessment. The undertaking within the scope of application of this [draft] ESRS shall consider, for the purposes of paragraph 31 of ESRS 1 *General Requirements*, that the sustainability matters listed in the table in paragraph 18 below are material. The undertaking shall apply paragraphs 33 to 39 of ESRS 1 to define the information to be included in its sustainability statements in relation to each of these matters.
6. An undertaking is within the scope of application of this [draft] ESRS when Mining, Quarrying and/or Coal is a significant sector according to paragraph 38 (b) and/or (c) of ESRS 2 *General Disclosures*, using the criteria in AR 12 of ESRS 2 to define a significant sector.
7. [draft] ESRS SEC 1 *Sector classification* defines the aggregation of activities (NACE codes) into sectors for the purposes of applying sector ESRS. The list of NACE codes that pertain to the Mining, Quarrying and Coal sector are listed in Appendix D to this [draft] ESRS, consistent with SEC 1.
8. This Mining, Quarrying and Coal sector [draft] ESRS stipulates sector specific Disclosure Requirements applicable for undertakings in the Mining sector and includes two types of requirements:
 - (a) requirements that provide sector-specifications in relation to sector agnostic Disclosure Requirements in order to either (i) complement with additional datapoints – presented in the main body of this [draft] Standard as sector-agnostic related Disclosure Requirement – or (ii) support the application of Disclosure Requirements – presented in the Application Requirements of this [draft] Standard and therefore to be disclosed if the related Disclosure Requirement from sector-agnostic disclosure is material;
 - (b) sector-specific Disclosure Requirements to be reported additionally to the Disclosure Requirements in the sector-agnostic standards – presented in the main body of this

[draft] standard and when applicable accompanied by Application Requirements in Appendix B of this standard. These Disclosure Requirements are separately numbered.

9. Undertakings in the Mining, Quarrying and Coal sector shall apply the [draft] cross cutting and [draft] topical ESRS requirements in addition to requirements of this Standard to both its own operations and, where relevant, to reporting on material impacts, risks and opportunities in the undertaking's value chain.
10. Undertakings operating in the sector shall assess the materiality of all matters and subject to that materiality assessment, apply all disclosures related to material sustainability matters.
11. When preparing its sustainability statements, the undertaking shall group the disclosures by cross-cutting reporting area and, where applicable, by sustainability matter¹ according to the provisions set out in [draft] ESRS 1 paragraph 117. Disclosures stemming from the [draft] Mining, Quarrying and Coal ESRS shall be presented alongside the disclosures required by the corresponding sector-agnostic ESRS.

Sector description and sustainability matters

Sector Description: Mining, Quarrying and Coal

12. The Mining sector includes the extraction of metals and minerals. It also includes quarrying activities.
13. Extraction can be achieved by different methods such as underground or surface mining, well operation, seabed mining, salars' exploitation, geothermal mining etc.
14. This sector also includes supplementary activities aimed at preparing the crude materials for marketing, for example, crushing, grinding, cleaning, washing, drying, sorting, sintering of ores, dredging of alluvial deposits, rock crushing or the use of salt marshes.
15. Quarrying activities include quarrying, rough trimming and sawing of large building stones, breaking and crushing of ornamental and building stones, the extraction and dredging of (industrial) sand, mining of natural phosphates and natural potassium salts, peat digging and preparation of peat to improve quality or facilitate transport or storage. It also includes mining and quarrying of various minerals and materials. Finally, support services such as exploration services, draining and pumping services or test drilling are also included in this [draft] sector standard.
16. The Coal Operations sector includes the extraction of solid mineral fuels through underground or open-cast mining and includes operations (e.g., grading, cleaning, compressing and other steps necessary for transportation etc.) leading to a marketable product.
17. The Coal Operations sector includes undertakings that mine coal and other similar materials and those that manufacture coal products. Mining activity covers both underground and surface mining, and thermal and metallurgical coal. It also includes manufacturing of coke oven products.

Sustainability Matters: Mining, Quarrying and Coal Sector

18. This [draft] ESRS sets out Disclosure Requirements related to the sustainability matters which are to be reported upon by the Mining, Quarrying and Coal sector, listed in the table below. Detailed descriptions of sustainability matters are included in Appendix C.

¹ Defined in Appendix A of ESRS 1.

Environmental	Social	Governance
E1: Climate change adaption (*)	S1: Working time and work-life balance (*)	G1: Corporate culture (*)
E1: Energy (*)	S1: Health and Safety (*)	G1: Corruption and bribery (*)
E2: Pollution of Air (*)	S1: Adequate wages and secure employment (*)	G1: Anti-competitive behaviour
E2: Pollution of Water (*)	S1: Freedom of association and collective bargaining (*)	G1: Political engagement and lobbying activities (*)
E2: Pollution of Soil (*)	S1: Gender equality and equal pay for work of equal value (*)	G1: Management of relationships including payment practices (*)
E2: Pollution of living organisms and food resources (*)	S1: Training and skills development (*)	G1: Cyber security
E2: Substances of concern (*)	S1: Measures against violence and harassment in the workplace (*)	
E2: Industrial hazards	S1: Diversity (*)	
E3: Water withdrawals (*)	S1/S2: Child labour (*)	
E3: Water consumption (*)	S1/S2: Forced labour (*)	
E3: Water use (*)	S1/S2: Adequate housing, including water and sanitation (*)	
E3: Water discharges in water bodies and in the oceans (*)	S1/S2: Privacy (*)	
E3: Habitat degradation and intensity of pressure on marine resources (*)	S3: Infrastructure, including adequate housing, adequate food, water and sanitation and power(electricity) (*)	
E4: Direct impact drivers on biodiversity loss (*)	S3: Impacts on land rights (*)	
E4: Impacts on the state of species (*)	S3: Security-related impacts (*)	
E4: Impacts on the extent and condition of ecosystems (*)	S3: Freedom of expression and freedom of assembly (*)	
E4: Impacts and dependencies on ecosystem services (*)	S3: Impacts on human rights and environmental defenders (*)	
E4: Product innovation	S3: Particular rights of indigenous communities. Including; Free, prior and informed consent; self-determination; and cultural rights (*)	
E5: Resources inflows, including resource use (*)	S4: Access to quality information (*)	
E5: Waste (*)		

(*) Sustainability matter covered by Disclosure Requirements in the topical sector-agnostic ESRS (see ESRS 1 Appendix B table in paragraph AR 12.)

Navigation table

19. The following table provides a holistic overview of the disclosure and application requirements of the [draft] ESRS Mining, Quarrying and Coal and at which level they need to be reported.

Placeholder:

The navigation table reflecting the structural changes to be provided as Agenda Paper 03-02A.

Disclosure Requirements related to sector-agnostic standards

Disclosure Requirement related to [draft] ESRS 2 SBM 1 Market position, strategy, business model(s) and value chain

20. When responding to ESRS 2- SBM 1 paragraph 38 (b) and (c) , © undertaking shall provide a breakdown of its turnover by NACE codes, a breakdown of its turnover by production data, a breakdown of its turnover by countries in compliance with the Extractives Industry Transparency Initiative ("EITI") quality assurance mechanism and (d) the market share of its products.
21. The undertakings in the Mining, Quarrying and Coal sector shall provide a breakdown of its production data per NACE-code activity where it is active for the following NACE-code activities:²
- (a) B.05 – Mining of coal and lignite
 - (b) B.07 – Mining of metal ores
 - (c) B.08 – Other mining and quarrying
 - (d) B.09 – Mining support activities
 - (e) C.19 – Manufacture of coke oven products
22. The undertaking shall provide a breakdown of its turnover by saleable production of ore resulting from mining activities, ie by production data.
23. The undertaking shall disclose the breakdown of its production into the following categories of countries, according to their compliance with the internationally acknowledged transparency standards (such as EITI quality assurance standards) as per its scale:
- (a) Countries with a very high progress in complying;
 - (b) Countries with a high to satisfactory progress in complying;
 - (c) Countries with a moderate to meaningful progress in complying;
 - (d) Countries with a fairly low to inadequate progress in complying;
 - (e) Countries with low to no progress in complying; and
 - (f) Other countries.
24. The EITI categories of quality assurance are used to disclose alignment with how the principles are being implemented locally. The category “other” relates to countries for which the assessment is suspended or to countries for which the compliance has yet to be assessed.
25. The undertaking shall further disclose the total addressable market and share of market for products that reduce energy, water, and/or material impacts during usage and/or production. The undertaking shall provide an estimation of the total addressable market for products that show reduced environmental impacts at various lifecycle stages, including during material

² This disclosure requirement is consistent with the requirements included in EBA Pillar 3 ITS Template 1 [Banking book – Climate change transition risk – Credit quality of exposures by sector, emissions and residual maturity](#).

sourcing, manufacturing, and product usage (hereafter, “reduced environmental impact products”). Total addressable market is defined as potential revenue (in billions of EUR) should the undertaking capture 100 percent of the market share of the product category (e.g., the global market for reduced environmental impact building products)..

Disclosure Requirement related to [draft] ESRS E1-2 – Policies related to climate change mitigation and adaptation

26. When disclosing according to the sector agnostic E1-2 – Policies related to climate change mitigation and adaptation, undertakings with coal mining operations shall disclose its policies related to the management and abatement of methane emissions.
27. In the absence of methane emissions management policies, the undertaking shall explain why such policies are not in place.

Disclosure Requirement related to [draft] ESRS E1-3 Actions and resources in relation to climate change policies

28. When disclosing according to the sector agnostic E1-3 – Actions and resources in relation to climate change policies, the undertaking with coal mining operations shall disclose its actions and resources to manage and abate methane emissions, namely:
 - (a) The % of CH₄ emissions, that were calculated using the following methods to monitor and quantify methane emissions, such as:
 - i. estimation methods involving the use of pre-determined emission factors;
 - ii. decline curves;
 - iii. handheld instruments;
 - iv. Continuous Emission Monitoring Systems (CEMS);
 - v. Remote sensing techniques.
 - (b) The frequency of the monitoring and corrective actions;
 - (c) the actions taken to address the methane leakages found as a result of the regular monitoring surveys;
 - (d) the effectiveness of the actions taken;
 - (e) the geographical location of any significant flaring or venting emissions;
 - (f) the actions undertaken in removing flaring from drainage stations and their success;
 - (g) indicate areas for operational improvements;
 - (h) discuss the overall performance of the methane emissions management policy and actions, by source and activity in terms of total absolute emissions and emission intensities.

Disclosure Requirement related to [draft] ESRS E1-4 – Targets related to climate change mitigation and adaptation

29. When disclosing according to the sector agnostic E1-4 – Targets related to climate change mitigation and adaptation, the undertaking with coal mining operations shall disclose methane emissions reduction targets that it has adopted.

Disclosure Requirement related to [draft] ESRS E1-6 - Gross scopes 1, 2, 3 and total GHG emissions

30. When disclosing its scope 3 GHG emissions as per ESRS E1-6 paragraph 41 , the undertaking shall include the following categories:

- (a) Waste generated in operations;
 - (b) Processing of sold products;
 - (c) Use of sold products; and
- Downstream transportation and distribution.
31. The undertaking in the Mining, Quarrying and Coal sector shall in addition to Disclosure Requirement ESRS E1-6 provide a breakdown of their Scope 1, 2 and 3 GHG per NACE code activity they are active in and this for the following NACE-activities³:
- (a) B.05 – Mining of coal and lignite;
 - (b) B.07 – Mining of metal ores;
 - (c) B.08 – Other mining and quarrying;
 - (d) B.09 – Mining support service activities; and
 - (e) C.19 – Manufacture of coke oven products.
32. The undertaking shall disclose the⁴ average tonnes of CO2 equivalent, and average share of high carbon technologies per:
- (a) Tonne of output;
 - (b) Gigajoule (only for undertakings with NACE code activity B.08 Other mining and quarrying and B.09 Mining support service activities)
 - (c) NACE code activity they are active in and this for the following NACE-activities:
 1. B.05.10 – Mining of hard coal
 2. B.05.20 – Mining of lignite
 3. B.07 – Mining of metal ores
 4. B.08 – Other mining and quarrying
 5. B.09 – Mining support service activities

Disclosure Requirement related to [draft] ESRS E2-1 – Policies related to pollution

33. When disclosing according to the sector agnostic ESRS E2-1 *Policies related to pollution*, the undertaking shall disclose its strategy and policies for avoiding, managing and minimising the impact of pollutants release to air, water, soil and organisms from:
- (a) normal operation of its facilities and equipment through its policies on pollution prevention and control, namely its environmental monitoring practices, maintenance practices and how it systematically identifies and implements Best Available Technologies, in particular on what concerns the management of:
 - i. leachate, drainage and acid drainage from mines;
 - ii. dust (PM10, PM2.5 and PM1) from operations, namely excavations, milling or storage operations;
 - iii. Leachate and drainage from any tailing ponds and dams; and
 - iv. Soil contamination, in particular with heavy metals,
 - (b) industrial hazards and accidents, namely:
 - i. spills and loss of containments;

³ This disclosure requirement is consistent with the requirements included in EBA Pillar 3 ITS Template 1 [Banking book – Climate change transition risk – Credit quality of exposures by sector, emissions and residual maturity](#).

⁴ This disclosure requirement is consistent with the requirements included in EBA Pillar 3 ITS Template 3 – [Banking book – Climate change transition risk – Alignment risks](#)

- ii. tailing ponds and dams structural rupture and release;
 - iii. slope stability and landslides; and
 - iv. uncontrolled explosions.
34. The undertaking shall disclose if its pollution policies include:
- (a) The systematic implementation of a certified and regularly audited Environmental Management System (EMS) to a recognized international standard, in all of its operating sites; and explicitly indicate any sites that do not have an EMS that is certified to a recognized international standard or regularly audited for its performance.
 - (b) Environmental impacts monitoring, namely:
 - i. if it uses a network of air quality monitoring stations near its operational sites for key air quality parameters (PM10, NOx, CO, CH4);
 - ii. if it uses a network of water quality monitoring stations on water bodies near its operational sites for key water quality parameters (flow volumes, turbidity, pH heavy metals);
 - iii. if it does regular campaigns to assess levels of soil pollution and ground water quality near its operational sites, namely for heavy metal (arsenic, lead, cadmium, mercury) and cyanide contamination;
 - iv. if it does regular noise monitoring campaigns from operations in particular when operating near human settlements;
 - v. procedures to openly receive, compile, communicate and deal with complaints from local communities on the environmental impacts of its activities.
35. In disclosing its policies related to pollution according to the sector agnostic E2-1 – Policies related to pollution the undertaking shall explain how it addresses:
- (a) spills and loss of containment events from tailings, chemicals or other hazardous materials used or produced in operations. In particular for substances of concern and substances of very high concern, the undertaking shall disclose policies on:
 - i. their use and disposal;
 - ii. how substances of concern and very high concern are defined, e.g. in accordance to any international standard, law, authoritative list or criteria used; and
 - iii. the approach for setting discharge limits for substances of concern or very high concern.
 - (b) tailings from mining, in particular:
 - i. implementation of policies to guarantee its structural integrity in the short, mid and long-term; and
 - ii. maintenance and inspection frequency of critical infrastructure.

Disclosure Requirement related to [draft] ESRS E2-2 Pollution action plans and resources

36. When disclosing according to ESRS E2-2 *Pollution action plans and resources*, the undertaking shall disclose its pollution-related plans, activities and the resources allocated to their implementation, with regards to:
- (a) pollution prevention and control of normal operation of its facilities and equipment, namely its:
 - i. Environmental monitoring plans, namely the regular monitoring of key air quality indicators such as particulate matter (PM10, PM2.5 and PM1), SO₂ and CO, key water quality indicators such as pH, turbidity and heavy metal.

- ii. Actions to prevent and control the release of pollutants, namely maintenance practices and how it systematically identifies and implements Best Available Technologies.
 - iii. Actions to remediate the effects of pollution from its operations on the environment.
- (b) Industrial hazards and accidents:
- i. Actions related to industrial hazard prevention and emergency preparedness and response;
 - ii. Report on past accidents whose environmental remediation may still be on-going and what actions have occurred during the reporting period and which actions are planned for short, mid and long-term, if applicable.
- (c) Site closure:
- i. the undertaking shall disclose its decommissioning and rehabilitation activities where it relates to pollution and if a site rehabilitation plan exists or is foreseen for each of its operational sites. If this is not the case, the undertaking shall disclose the list of sites for which there is no existing or foreseen site rehabilitation plan.
 - ii. The undertaking shall disclose for which sites it has on-going decommissioning and rehabilitation activities and resources related to pollution.
37. In disclosing its action plans and resources related to pollution the undertaking shall explain in particular actions and resources related to the prevention, mitigation and management of impacts derived from:
- (a) air pollution, in particular particulate matter (PM10, PM2.5 and PM1), SO₂ and CO;
 - (b) water pollution, in particular leachate and acid drainage;
 - (c) tailings from mining;
 - (d) use and disposal of substances of concern or substances of very high concern.
38. The undertaking shall specify to which layer in the mitigation hierarchy an action plan and resources can be allocated to:
- (a) avoid pollution including any phase out of materials/compounds that have a material negative impact (prevention of pollution at source);
 - (b) reduce pollution (minimisation), including by meeting BAT requirements in the future;
 - (c) restore and regenerate ecosystems where pollution occurred (control of the impacts both from regular activities and incidents);
 - (d) transform ecosystem e.g. through technological, economic, institutional, and social factors and changes in underlying values and behaviours;
 - (e) meet enforcement requirements or future compliance needs such as meeting BAT requirements in the future, or any phase out of materials/compounds; and
 - (f) address failures to comply with Do-No-Significant-Harm criteria for pollution prevention and control according to the EU Taxonomy Regulation and its Delegated Acts.
39. The undertaking shall report case studies of significant:
- (a) Chronic pollution from its activities, resulting from current or historical activity, and where violations of environmental quality limits are or have been frequent, may persist in time, or cause irremediable damages to the environment or people. The undertaking shall disclose on which sites such situations occur.
 - (b) Acute pollution, as a consequence of industrial accidents, as determined by the undertaking, when they have occurred in reporting year or when remediation is still active.

Disclosure Requirement related to [draft] ESRS E2-3 Targets related to pollution

40. When disclosing according to the sector agnostic ESRS E2-3 *Targets related to pollution*, the undertaking shall disclose the pollution-related targets it has adopted with regards to the prevention and control of:
 - (a) acid drainage;
 - (b) tailings from mining;
 - (c) substances discharged to soil and water; and
 - (d) substances of concern and substances of very high concern.

Disclosure Requirement related to [draft] ESRS E2-4 Pollution of air, water and soil

41. Undertakings shall disclose the number of cases an environmental quality limit has been violated for each monitored pollutant, as detected by its environmental monitoring network and practices. It shall also disclose the total amount of measurements made for each monitored pollutant.
42. The undertaking shall disclose the total number, total volume and substances released of recorded significant spills that occurred during the reporting period. For each significant spill, the undertaking shall disclose:
 - (a) location of spill,
 - (b) volume of spill,
 - (c) material of spill, categorised by: oil spills (soil or water surfaces), fuel spills (soil or water surfaces), spills of waste (soil or water surfaces), spills of chemicals (mostly soil or water surfaces), and other.
 - (d) a description of the impacts of each spill,
 - (e) how the undertaking defines a 'significant' spill.

Disclosure Requirement related to [draft] ESRS E2-6 - Potential financial effects from pollution-related impacts, risks and opportunities

43. The undertaking shall report on financial effects of incidents with environmental impacts related to pollution, such as spills, leakages, uncontrolled discharges, landslides, or other operational safety event.
44. The undertaking shall disclose information about how it manages its responsibilities related to closure and post-closure of operational sites including the related financial information.
45. The undertaking shall also provide the following information about its material financial provisions for the closure and rehabilitation of mines by operational site where such information is not provided in the financial statements:
 - (a) The amount of such provisions by operational site;
 - (b) The undiscounted cash flows by time bucket for each of these operational sites;
 - (c) The discount rate or curve used for calculating such provisions;
 - (d) The methodology used to estimate the undiscounted cash flows and discount rate for closure and rehabilitation; and
 - (e) Whether the mine site has been sold to a third party.

Disclosure Requirement related to [draft] ESRS E3-1 – Policies related to water and marine resources

46. When disclosing the information required in sector agnostic Disclosure Requirement E3-1 on policies and targets related to water and marine sources, the undertakings shall include its interactions with water as a shared resource, particularly in water-stressed areas and where conflicts between different water uses may emerge.

Disclosure requirement related to [draft] ESRS E4-2 Policies related to biodiversity and ecosystems

47. When disclosing its policies implemented to manage its material impacts, risks and opportunities related to biodiversity and ecosystems, the undertaking shall describe if its policies address:
- (a) a phase-out of existing operations and/or stopping operational investments in areas of key biodiversity value. In case such policies are not in place, the undertaking shall disclose the policy provisions to minimize biodiversity and ecosystem impacts from current and future operations in these areas.
 - (b) the achievement of no net loss or a net gain to biodiversity on operational sites; and whether these commitments apply to existing and future operations and to operations beyond key biodiversity areas.
 - (c) decommissioning of operational sites at their end-of-life, including the systematic implementation of site restoration plans.
48. The undertaking shall disclose if its policies implemented to manage material impacts, risks and opportunities related to biodiversity and ecosystems, according to ESRS E4-2, do not apply to specific sites. In such case, the undertaking shall disclose which policies apply for those operational sites and, when for sites located in or near key biodiversity areas, if they are more stringent than the corporate wide policy.

Disclosure Requirement related to [draft] ESRS E4-3 – Actions and resources related to biodiversity and ecosystems

49. When describing biodiversity and ecosystems-related actions and the resources allocated to their implementation according to the sector agnostic Disclosure Requirement E4-3, the undertaking shall explain how the application of the mitigation hierarchy, if applicable, has resulted in:
- (a) areas protected through avoidance measures or offset measures;
 - (b) areas restored through on-site restoration measures or offset measures.
50. The undertaking shall provide examples or case studies of operating areas where it has put biodiversity management activities and adaptive management in place.
51. The undertaking shall disclose its decommissioning and rehabilitation or restoration activities where it relates to biodiversity and if a site rehabilitation or restoration plan exists or is foreseen for each of its operational sites. If this is not the case, the undertaking shall disclose the list of sites for which there is no existing or foreseen site rehabilitation or restoration plan.
52. The undertaking shall disclose for which sites it has on-going decommissioning and rehabilitation or restoration activities and resources, in particular for operational sites with material IROs located in or near key biodiversity areas.

Disclosure requirement related to [draft] ESRS E4-5 Impact metrics related to biodiversity and ecosystems change

53. The undertaking shall disclose the direct land use change related to its operational sites in ha, as well as direct land use change in key biodiversity areas.

54. The undertaking shall disclose the percentage of disturbed acreage that was restored during the reporting period and the corresponding percentage in key biodiversity areas.
55. The undertaking shall report metrics related to material impacts resulting in biodiversity and ecosystem change, following ESRS E4-5, per each operational site located in or near, or that has material impacts on key biodiversity areas.
56. The undertaking shall include an exhaustive list of operational sites owned, leased, managed in or near, or that have material impacts on, protected areas, key biodiversity areas, sites with protected conservation status, or sites with endangered species habitats and include per each operational site:
 - (a) a description of the material impacts on biodiversity its exploration has or has had, thereby specifying the impacts to the affected habitats and ecosystems.
 - (b) the total number of IUCN Red list species and national conservation list species with habitats in areas affected by the operations of the organisation and this by level of extinction risk; and
57. The undertaking shall disclose the approach used to ensure respect for conservation status or endangered species habitat at reporting entity level. The undertaking shall disclose this information at operational site level if it applies different approaches per (groups of) operational site(s).
58. The undertaking may separately identify reserves in areas with additional ecological, biodiversity, or conservation designations such as those listed by the A-Z Guide of Areas of Biodiversity Importance prepared by the United Nations Environment Programme's World Conservation Monitoring Centre (UNEP-WCMC).
59. The undertaking may disclose reserves that are in protected areas or endangered species habitat, but present low risk to biodiversity or ecosystem services; the undertaking may provide similar discussion for reserves located in areas with no official designation of high biodiversity value but that present high biodiversity or ecosystem services risks.
60. The undertaking shall disclose:
 - (a) terrestrial acreage disturbed;
 - (b) percentage of impacted area restored; and
 - (c) the total acreage of disturbed land, where the scope includes land in the exploration, development and production, or quarry/mine closure, and post-closure project phases.
61. This disclosure shall be a cumulative total of all currently active sites and sites being restored; it is not limited to land newly disturbed during the reporting period.

Disclosure Requirement related to [draft] ESRS S1-13 Training and skills development

62. When disclosing the training and development indicators defined in [draft] ESRS S1-13, the undertaking shall disclose the following information:
 - (a) its general approach and processes to ensure the quality of the training services related to work-related hazards, hazardous activities, or hazardous situations which contribute to the identification and elimination of hazards and minimisation of risks for its employees; and
 - (b) the average hours of training related to the health, safety and emergency preparedness of employees, with respect to occupational risks or hazards to which employees are reasonably likely to be exposed; such information shall be broken down by permanent employees, temporary employees and non-guaranteed hours employees.

Disclosure requirement related to [draft] ESRS S1-14 Health and safety indicators

63. When reporting on ESRS S1-14, the undertaking shall disclose the following for own workforce:

- (a) a description of the substances of very high concern that workers are exposed to in its operations;
- (b) a description of other dangerous factors in the physical work environment, including:
 - i. noise and vibrations;
 - ii. ergonomic risk factors;
 - iii. psycho-social organizational work environment; or
 - iv. thermal strain and stress (including heat rash, heat fatigue, heat cramps, heat syncope, heat exhaustion and heat stroke); and
- (c) a description of the occupational health services functions that contribute to the identification and elimination of hazards and minimisation of risks and an explanation.
- (d) the number of work-related fatalities, work-related injuries and cases of work-related ill health as a result of working with chemicals (including but not limited to silica, methane, asbestos, and diesel); and
- (e) how the undertaking ensures the quality of these services and facilitates workers' access to them.

Disclosure requirement related to [draft] ESRS S1-1 Policies related to own workforce

- 64. When responding to the requirements of ESRS S1-1, the undertaking shall disclose information related to working conditions for coal and mining own workers. Specifically, the undertaking's policy on housing facilities for own workers and their access to basic services such as clean water, sanitation, and electricity as well as recreational facilities and social spaces.
- 65. The undertaking shall describe, where applicable, its policy on long and split shifts with regards to working hours and overtime.
- 66. Disclosure Requirement related to [draft] ESRS S3-1 Policies related to affected communities. In describing its human rights policies that are relevant to affected communities, the undertaking shall specify whether it has a policy to respect and protect the rights of human rights and environmental defenders.
- 67. The undertaking shall describe whether the company has a policy commitment regarding attacks against human rights and environmental defenders, and may disclose the nature of that policy commitment, including whether it adopts a zero-tolerance approach for attacks against human rights and environmental defenders, and not to sue for defamation or to participate in strategic lawsuits against public participation (SLAPP).
- 68. In relation to resettlements, the undertaking shall describe its policies or approach to recognise legitimate tenure rights holders when acquiring, leading or making other arrangements to sue, or restrict the use of land.

Disclosure Requirement related to [draft] ESRS S3-2 Processes for engaging with affected communities

- 69. When reporting on ESRS S3-2 in relation to engagement with stakeholders in affected communities, the undertaking shall disclose its processes for engaging with human rights and environmental defenders.
- 70. In relation to closure and post-closure activities of the undertaking, the undertaking shall disclose how the land will be used ex post the closure of the operational site. Where applicable, the undertaking shall disclose whether such post-closure plans have been consulted with the affected communities.

Disclosure requirement related to [draft] ESRS S3-4 Taking action on material impacts, and approaches to mitigating material risks and pursuing material opportunities related to affected communities, and effectiveness of those actions and approaches

71. When reporting on ESRS S3-4 on impacts, the undertaking shall disclose the following for each operational site or group of operational sites within the same geographical area:
 - (a) The percentage of the procurement budget spent on suppliers local to that operation;
 - (b) The extent of development of significant infrastructure investments (e.g. transport links, utilities) and services (e.g. community social facilities, health, and welfare centres) supported;
72. When disclosing the information required in paragraph 67(a), the undertaking may provide a breakdown of suppliers local to the operation that are owned by women or other minority groups.
73. The undertaking shall describe the programs in place to enhance positive impacts or mitigate negative impacts involving ASM, and how engagement with local authorities and communities has informed them.

Disclosure requirement related to [draft] ESRS G1-1 Corporate culture and business conduct policies

74. The undertaking shall disclose whether and to which extent its processes comply with the International Organisation for Standardisation (ISO) standards. It shall also disclose how these have been accredited, audited or found to conform to the ISO standards. The undertaking shall also disclose the time of the last confirmation or audit procedure of compliance with the ISO standards.

Disclosure requirement related to [draft] ESRS G1-5 Political influence and lobbying activities.

75. When providing disclosures in accordance with Disclosure Requirement ESRS G1-5 paragraph 29, the undertaking shall disclose:
 - (a) any differences between its main positions identified in [draft] ESRS G1-5 paragraph 29(c), and the positions of the representative associations or committees it supports.
 - (b) what proportion of its communication spend is dedicated to lobbying activities regarding its material impacts, risks and opportunities identified in its materiality assessment in accordance with [draft] ESRS 2.
76. The undertaking shall also explain to which extent its corporate communication aligns with globally established targets related to climate neutrality or nature positive economy and how it ensures that its sustainability communication is clear, transparent, substantiated, and specific. If this communication relates to the topics and sub-topics within one of the five environmental agnostic standards, the undertaking shall explain how it ensures consistency with the undertaking's disclosures under the identified standard.
77. The undertaking shall disclose the number of open cases before courts or other competent authorities at the end of the reporting period that concern misleading commercial practices or public communication related to sustainability. It shall also disclose the number of similar cases resolved during the reporting period and the outcomes of such cases.

New disclosure requirements

Disclosure Requirement MIN 1 – List of operational sites

78. The undertaking shall disclose a list of its operational sites and concessions where either:
- (a) The undertaking owns 5 to 20% of the operation;
 - (b) 1 to 5% of its total saleable production comes from the operational site;
 - (c) The mining is an exploratory phase under conditions that do not require the undertaking to add the site on the list of operational sites while the undertaking has a first right option to the subsequent possible exploratory activities; or
 - (d) The undertaking holds a mining concession, permit or license, other than for exploration purposes covered in (c).
79. The objective of this Disclosure Requirement is to enable an understanding of the undertaking's footprint in terms of activities.
80. When identifying an operational site the undertaking shall include:
- (a) mines and the surface area disturbed by a mining operation, including but not limited to; the surface area from which the nonferrous metallic minerals or refuse or both have been removed, the surface area covered by refuse, all lands disturbed by the construction or improvement of haulage ways, pipelines and pipeline corridors, and any surface areas in which structures, equipment, materials, and any other elements used in the mining operation are situated;
 - (b) quarries [definition pending feedback from quarries companies];
 - (c) tailing dams;
 - (d) infrastructure and office buildings relating to the operations; and
 - (e) a description of the minerals that are produced for each of the mine sites.
81. The undertaking shall specify the status of the operational site , and specify:
- (a) whether the site is active;
 - (b) whether the site has a closure and rehabilitation plans in place;
 - (c) whether the site is undergoing closure activities.
 - (d) whether the site has been closed; or
 - (e) whether the site has been rehabilitated.
82. The undertaking shall also disclose as to whether the operational site impacts social and environmental matters. This includes the following disclosures:
- (a) whether the site is located in or near to a protected areas or a key-biodiversity area;⁵
 - (b) whether the undertaking causes or contributes to material impacts on the local community, specifically, in relation to:
 - i. indigenous peoples,
 - ii. land rights,
 - iii. infrastructure, including housing, food, water and sanitation, and power,

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

- iv. pollution,
 - v. toxic waste storage or disposal,
- (c) whether the operational site is located in near conflict affected or high-risk areas; and
- (d) whether involuntary resettlements have been caused or contributed to by the undertaking have taken place near the site.
83. The undertaking shall also disclose whether it has emergency preparedness and response plans in place for each of the mine sites . In case the undertaking has no emergency preparedness and response plans in place, the undertaking shall clarify the reasons why.

Disclosure Requirement MIN 2 – Proved and probable reserves

84. **The undertaking shall disclose the percentage of proved and probable reserves broken down to different datapoints.**
85. The objective of this Disclosure Requirement is to enable an understanding of an undertaking's proved and probable reserves.
86. The undertaking shall disclose the percentage of proved and probable reserves broken down by those that are:
- (a) in conflict affected or high-risk areas;
 - (b) in or near indigenous land;
 - (c) in or near sites with protected conservation status;
 - (d) in or near endangered species habitat.

Environmental related requirements

Disclosure Requirement MIN 3-E2 – Tailings facilities and impoundments

87. **The undertaking shall disclose the list of its tailing's facilities, the list of its tailing impoundments classified according to their hazard potential, and the types of tailings disposal methods used.**
88. The objective of this Disclosure Requirement is to provide transparency of the undertaking's management of its tailings facilities; the hazardous nature of the undertaking's tailing impoundments; and compliance with the Industry Standard with respect to the treatment of tailings.
89. The undertaking shall describe actions taken to:
- (a) prevent catastrophic failures of tailings facilities;
 - (b) manage impacts from tailings facilities foreseen functioning, including during closure and post-closure; and
 - (c) manage the impacts of failures in tailings facilities' functioning, including but not limited to catastrophic failures.
90. The undertaking shall disclose the dedicated financial provisions (including insurance arrangements) for the actions countering and addressing catastrophic failures with the liabilities and costs involved in the occurrence of such an event.
91. In addition, the undertaking shall provide:
- (a) a description of the tailing facilities in place for each operational site, including legacy ones;
 - (b) the list of the tailing impoundments classified according to their hazard potential; and
 - (c) types of tailings disposal methods used by the undertaking.

92. The disclosure shall include, for each operational site, including legacy ones, the tailings facilities in place, their name, location, and ownership status. The undertaking shall include:
 - (a) a description of the tailing's facility;
 - (b) whether the facility is active, inactive, or closed;
 - (c) the date and main findings of the most recent risk assessment;
 - (d) the dates of the most recent and next independent technical reviews as well as their main findings;
 - (e) report the maximum permitted storage capacity and the total weight of tailings stored in metric tonnes; and
 - (f) review, and the date of the next review.
93. The undertaking shall disclose how it considers long-term liabilities.
94. The undertaking shall provide information about its waste-management process in case of deep-sea, river, lake and ocean tailings disposal and shall:
 - (a) disclose the total amount of tailings waste and of mineral processing waste generated during the reporting period;
 - (b) report on the waste-management process followed and additional challenges faced considering the activities that take place underwater, if it engages on sea mining activities, coastal or deep sea, including the disposal of waste into the marine systems or other activities mentioned in ESRS E3 AR.12;
 - (c) disclose if tailings waste is being generated in deep-sea areas (Deep-Sea Tailings Disposal (DSTD)).
95. The undertaking shall disclose whether it complies with the GISTM and, if so, provide the most recent information disclosed in line with GISTM Principle 15.
96. If the undertaking does not comply with GISTM yet, it shall provide a date for when it will start complying with GISTM.

Disclosure Requirement MIN 4-E3 – Water withdrawal

97. **The undertaking shall disclose the freshwater and other water withdrawal for its activities and from what sources the water is withdrawn from.**
98. The objective of this disclosure requirement is to understand the dependency of the undertaking on water withdrawals, as well as potential significant impacts water withdrawals can have on local water resources and use.
99. The undertakings shall disclose the following indicators:
 - (a) Total volume of water withdrawn from all areas in thousands of cubic meters (10^3m^3), including a breakdown by:
 - i. Total freshwater divided by:
 1. surface water;
 2. groundwater.
 - ii. Other water:
 1. seawater;
 2. produced water and recycled process wastewater;
 3. third-party water.
 - (b) Total volume of water withdrawn from water stressed areas in thousands of cubic meters (10^3m^3), including a breakdown by:
 - i. Total Freshwater divided by:

1. surface water;
 2. groundwater.
- ii. Other water:
 1. seawater;
 2. recycled process wastewater;
 3. third-party water.
- (c) Any contextual information necessary to understand how the data have been compiled, such as any standards, methodologies, and assumptions used.
 - (d) The undertaking shall report:
 - i. Its action to minimize water withdrawals in water stress areas;
 - ii. on which operational sites the mining activities have a significant impact on groundwater level and environmental-flows and what measures are put in place to counteract these effects.

Disclosure Requirement MIN 5-E3 – Water discharge

- 100. The undertaking shall disclose the volume, the destination, and the impacts of the water it discharges to the environment or exports to third-parties; and the actions it may have taken to improve the quality of the water discharged.**
101. The purpose of this Disclosure Requirement is to provide understanding of the impact of the undertakings' water discharges on local water resources and use.
102. The undertakings shall disclose the following information:
 - (a) Total volume of water discharged to water stressed areas in thousands of cubic meters (10^3m^3), including a breakdown by:
 - i. freshwater;
 - ii. other water.
 - (b) any contextual information necessary to understand how the data have been compiled, such as any standards, methodologies, and assumptions used;
 - (c) the number of occasions on which discharge limits were exceeded and for which water quality parameters;
 - (d) The undertaking shall report where mining operations significantly impact on hydrological conditions (e.g. drainage flows, hydrogeology, etc) and where these have a significant impact on groundwater level and environmental-flows and what measures are put in place to counteract these effects.

Social related requirements

Disclosure requirement MIN 6-S1 – Work stoppages

- 103. The undertaking shall disclose the number of work stoppages and total duration, in worker days idle.**
104. The objective of this Disclosure Requirement is to enable an understanding of the extent of worker disputes and their impact on the undertaking's operations.
105. The undertaking shall disclose:
 - (a) The number of major work stoppages, their duration, and the number of employees involved; and
 - (b) The undertaking may provide a description of the reasons for each major work stoppage and the steps taken to resolve each dispute.

Disclosure Requirement MIN 7-S3 – Human Rights and Environmental defenders

106. The undertaking shall describe the number of (confirmed) incidents when engaging with human rights and environmental defenders.
107. The objective of this Disclosure Requirement is to enable an understanding of the extent to which the security personnel is trained on human rights.
108. The undertaking shall provide the number of (confirmed) incidents with human rights and environmental defenders.
109. A breakdown of the (confirmed) incidents shall be provided for vulnerable groups.

Disclosure Requirement MIN 8-S1– Percentage of security personnel receiving training in undertakings' human rights policies

110. The undertaking shall disclose the percentage of security personnel that has received training in the undertaking's human rights policies within own workforce.
111. The objective of this Disclosure Requirement is to enable an understanding of the training of the undertaking's own security personnel in human rights.
112. The undertaking shall disclose the percentage of security personnel that has received training in the undertaking's human rights policies.
113. If the data disclosed to fulfil the requirements set forth in the paragraph above 110has been internally audited and /or audited or certified by an external party.

Disclosure Requirement MIN 9-S3 – Resettlement

114. The undertaking shall disclose, for each operational site—whether it has caused or contributed to voluntary or involuntary resettlement, and the operational site(s) in question.
115. The objective of this Disclosure Requirement is to enable an understanding of the negative impacts that arise from voluntary or involuntary resettlement caused or contributed to by the undertaking on affected communities.
116. The undertaking shall disclose whether it has caused or contributed to voluntary or involuntary resettlement or where such a resettlement is ongoing; in this case the undertaking shall disclose the operational site(s) involved.

Disclosure requirement MIN 10-S3 – Workforce hired from local communities

117. The undertaking shall disclose for each operational site percentage of workers hired from the local community identified in MIN 1.
118. The objective if this disclosure requirement is to gain an understanding of the undertakings impact on the local community.
119. The undertaking shall disclose:
 - (a) the percentage of top management that are recruited from the affected community;
 - (b) the percentage of workers hired from the local community, including indigenous communities;

Governance related requirements

Disclosure Requirement MIN 11-G1 – Contract transparency

120. The undertaking shall disclose information about its transparency with respect to any contract, license, concession, production-sharing agreement or other agreement

granted by, or entered into by, the government which provides the terms attached to the exploitation of mineral resources.

121. The objective of this Disclosure Requirement is to provide an understanding of the openness of the undertaking about its public contracts concluded and mining licences received.
122. In order to comply with paragraph 120120, the undertaking shall disclose:
 - (a) whether such contracts are made publicly available and, if so, which such contracts and licenses are publicly available as well as where they are published; and
 - (b) for those public contracts or licenses not publicly available, the reason for this and actions taken to publish in the future as well as the timetable to do so.

Disclosure Requirement MIN 12-G1 – State-aid and competition

123. **The undertaking shall provide information on any publicly announced notifications, preliminary investigations, investigations or proceedings concerning possible anti-competitive agreements, abuse of dominance, concentrations or state aid it is facing during the reporting period.**
124. The objective of this disclosure requirement is to provide transparency on publicly announced investigations into or litigation concerning possible anti-competitive behaviour of the undertaking during the reporting period as well as any state aid received.
125. The disclosure required by paragraph 123123 shall include the following information:
 - (a) publicly announced notifications, preliminary investigations, investigations, proceedings or commitments and remedies relating to violations of antitrust and monopoly legislation or the receipt of state-aid where the undertaking was named as a participant by a competent authority;
 - (b) the main outcomes of legal proceedings against the undertaking concluded during the reporting period, including sanctions, fines, commitments and remedies;
 - (c) any fee paid to secure sales to government organizations (or third parties acting on the government's behalf);
 - (d) all payments to governments relating to mining extraction, trade and transport, in accordance with jurisdictional legislation.
126. Reporting in accordance with paragraph 123123 shall also include the following with respect to state aid or financial assistance received from any government:
 - (a) tax relief and tax credits;
 - (b) subsidies;
 - (c) funds received through the Just Transition Mechanism of the EU;
 - (d) investment grants, research and development grants, and other relevant types of grants;
 - (e) awards;
 - (f) royalty holidays;
 - (g) financial assistance from Export Credit Agencies (ECAs);
 - (h) financial incentives;
 - (i) other financial benefits received or receivable from any government for any operation.

In accordance with Chapter 10 of the Directive 2013/34/EU on annual financial statements, consolidated financial statements and related reports of certain types of undertakings, the undertaking shall provide payment data on a country-by-country level.

Disclosure Requirement MIN 13-G1 – Beneficial owners of business partners

127. **The undertaking shall disclose how it identifies the beneficial owners of business partners, including joint ventures and suppliers.**
128. The objective of this Disclosure Requirement is to provide an understanding of the undertaking's policy regarding the beneficial owners of its business partners and how these are identified and managed by the undertaking.
129. The undertaking shall disclose its policies and screening processes regarding politically exposed persons ('PEPs') and beneficial owners of business partners, including joint ventures and suppliers.

Disclosure Requirement MIN 14-G1 – Cybersecurity

130. **The undertaking shall disclose information about its cybersecurity during the reporting period.**
131. The objective this Disclosure Requirement is to provide an overview of the undertaking's policies and management of risks regarding cybersecurity as well as information about failures related to cybersecurity.
132. To comply with paragraph 130, the undertaking shall disclose:
 - (a) its policies relating to cybersecurity;
 - (b) its approach to cybersecurity management for existing operations, projects planned or underway and new locations for business activities, including assessment of threats, vulnerabilities and risks;
 - (c) the number of cybersecurity breaches including the number of operational sites impacted; and
 - (d) whether this involved classified or restricted information.

Disclosure Requirement MIN 15-G1 – Mineral purchases from governments

133. **The undertaking shall provide information about minerals purchased from governments or on their behalf during the reporting period.**
134. The objective of this disclosure requirement is to provide transparency about mineral purchases from the government and to provide insights into these transactions, increase public debate and increase accountability.
135. When reporting in accordance with paragraph 133, for minerals purchased from the state or from third parties appointed by the state to sell on their behalf, the undertaking shall disclose:
 - (a) volumes and types of minerals purchased;
 - (b) full names of the buying undertaking(s) and the recipient of the payment; and
 - (c) payments made for the purchase.

Appendix A: Defined terms

Active conflict/ conflict affected or high-risk areas	Areas in a state of armed conflict or fragile post-conflict as well as areas witnessing weak or non-existent governance and security, such as failed states, and widespread and systematic violations of international law, including human rights abuses
Biosphere Reserves recognised within the framework of UNESCO's Man and the Biosphere (MAB) Programme	Biosphere reserves are nominated by national governments and remain under the sovereign jurisdiction of the states where they are located. Biosphere Reserves are designated under the intergovernmental MAB Programme by the Director-General of UNESCO following the decisions of the MAB International Coordinating Council (MAB ICC). Their status is internationally recognized.
Community development program	A plan that details actions to minimise, mitigate or compensate for adverse social and/or economic impacts, and/or to identify opportunities or actions to enhance positive impacts of a project on the community.
Critical incident	An event that may adversely affect the undertaking and requires an immediate response. It is likely to cause significant personal illness or injury, substantial impact to operations and commercial prospects, a degradation of reputation, or lead to an impact on the wider community.
Cyber security	Cyber security relates to the practice of protecting electronic data, computer systems, servers, networks, mobile devices, tablet devices etc. from malicious criminal attacks, theft of sensitive data, and damage to IT systems.
Energy recovery	The use of combustible waste as a means to generate energy through direct incineration with or without other waste but with recovery of the heat.
Government relations	Government" refers to any national, regional or local authority of a Member State or of a third country. It includes a department, agency or undertaking controlled by that authority (Chapter 10, Report on Payments to Governments, 2013). Government relations is the process of influencing public and government policy at all levels previously outlined.
High-risk area	High-risk areas are those where there is a high risk of conflict or of widespread or serious abuses as defined in paragraph 1 of Annex II of the OECD Guidance. Such areas are often characterized by political instability or repression, institutional weakness, insecurity, collapse of civil infrastructure, widespread violence, and violations of national or international law.
Human rights defender	"Human rights defender" is a term used to describe people who, individually or with others, act to promote or protect human rights in a peaceful manner. Human rights defenders are identified by what they do and it is through a description of their actions and of some of the contexts in which they work.
Local community	Local communities are defined as persons or groups of persons living and/or working in any areas that are economically, socially or environmentally impacted (positively or negatively) by an organization's operations. The local community can range from persons living adjacent to an organization's operations, to those

	living at a distance who are still likely to be impacted by these operations.
Operational site	Any location where an integral part of the mining business is performed.
Politically Exposed Persons (PEP)	An individual entrusted with a prominent public function.
Probable reserves	Reserves for which quantity and grade and/or quality are computed from information similar to that used for proven (measured) reserves, but the sites for inspection, sampling, and measurement are farther apart or are otherwise less adequately spaced.
Recycled and remanufactured materials	Waste materials that have been reprocessed or treated by means of production or manufacturing process and made into a final product or made into a component for incorporation into a product.
Reserves	Part of a mineral deposit which could be economically and legally extracted or produced at the time of the reserve determination.
Spills	Spills are accidental release of hazardous substances such as chemicals, oils, fuels and other substances. They can affect water, soil and air quality as well as biodiversity and human health.
Significant spills	Spill that is included in the organization's financial statements, for example due to resulting liabilities, or is recorded as a spill by the organization.
State aid	<p>State aid is defined as an advantage in any form whatsoever conferred by national public authorities to undertakings on a selective basis. Therefore, subsidies granted to individuals or general measures open to all enterprises are not covered by this prohibition and do not constitute State aid (examples include general taxation measures or employment legislation).</p> <p>To be State aid, a measure needs to have these features:</p> <ul style="list-style-type: none"> • there has been an intervention by the State or through State resources which can take a variety of forms (e.g. grants, interest and tax reliefs, guarantees, government holdings of all or part of a company, or providing goods and services on preferential terms, etc.); • the intervention gives the recipient an advantage on a selective basis, for example to specific companies or industry sectors, or to companies located in specific regions • as a result, competition has been or may be distorted; • the intervention is likely to affect trade between Member States. <p>Despite the general prohibition of State aid, in some circumstances government interventions are necessary for a well-functioning and equitable economy. Therefore, the Treaty leaves room for a number of policy objectives for which State aid can be considered compatible. These exemptions can be found in legislation relevant to State aid.</p> <p>For non-EU countries, state aid refers to financial assistance received from any government.</p>
Substances of very high concern	Substances that meet the criteria laid down in Article 57 of Regulation (EC) 1907/2006 (REACH) and were identified in accordance with Article 59(1) of that Regulation.
Tailings	A by-product of mining, consisting of the processed rock or soil left over from the separation of the commodities of value from the rock or soil within which they occur.

	Poor management or design of tailings facilities can lead to leaks or collapses, with serious impacts on local communities, livelihoods, infrastructure, and the environment. Failures can result from inadequate water management, overtopping, foundation or drainage failure, erosion, and earthquakes. Impacts become more severe when tailings contain high levels of bioavailable metals or hazardous chemicals.
Waste	Any substance or object which the holder discards or intends or is required to discard.

Appendix B: Application Requirements

This Appendix is an integral part of the proposed [draft] ESRS Mining, Quarrying and Coal. It supports the application of the requirements set for in paragraphs X to X and has the same authority as the other parts of the [draft] Standard.

Application Requirements related to set 1

Application Requirement related to [draft] ESRS 2 GOV 4 - Statement on sustainability due diligence

- AR 1. When disclosing a mapping of the information provided in its sustainability statements about the sustainability due diligence process, the undertaking whose activities relate to the following Supplements in the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas shall also map the core elements from the OECD due diligence guidance. This in addition to the UN Guiding Principles on Business and Human Rights and the OECD Guidelines for Multinational Enterprises mentioned in the agnostic disclosure.
- (a) the Supplement on Tin, Tantalum and Tungsten;
 - (b) the Supplement on Gold;
 - (c) other areas specified in the conflict minerals regulation.
- AR 2. The undertaking shall include procurement in its mapping as well as environmental factors. This may be presented in a table in a similar form to the table presented below.

Core elements	Paragraphs in the sustainability matters
OECD Due diligence guidance for Responsible Supply chains of Minerals from Conflict-Affected and High-Risk areas	
Establish strong management system	
Identify and assess risk in the supply chain	
Carry out independent third-party audit of supply chain due diligence at identified points in the supply chain	
Report on supply chain due diligence	

Application requirement related to [draft] ESRS 2 SBM 1 - Market position, strategy, business model(s) and value chain

- AR 3. The scope of products includes those:
- (a) With product attributes that reduce energy consumption or increase energy efficiency for users, such as by providing improved insulation as compared to typical products;
 - (b) With process or product attributes that reduce the amount water required in manufacturing, during product assembly, or product usage; and
 - (c) That use secondary or recycled materials in place of virgin materials such that upstream impacts are reduced Made with design innovations that lower carbon emissions during manufacturing, such as use of renewable fuels, energy efficiency improvements, or the use of materials requiring less processing If there is a significant difference between the total addressable market and the market that the undertaking can serve through its existing or planned capabilities, sales channels,

or products (i.e., the serviceable available market) then the undertaking should disclose this information.

- AR 4. The undertaking shall disclose the share of the total addressable market for reduced environmental impact products that it currently captures with its products. Market share shall be calculated as revenues from these products divided by the size of the total addressable market. The undertaking may provide a projection of growth of this market, where the projected addressable market is represented – based on a reasonable set of assumptions about changes in market conditions – as a percentage of year-on-year growth or as an estimate of the market size after a defined period (i.e., the market size in 10 years). The undertaking may disclose its target three-year market share as a measurement of targeted growth, where the target is the percentage of the total addressable market that the undertaking plans to address over a three-year time horizon.

Application Requirement related to [draft] ESRS 2 SBM 2 - Interests and views of stakeholders

- AR 5. When disclosing how the undertaking engages with its stakeholders in compliance with ESRS 2 SBM-2, the undertaking shall describe how it incorporates the OECD Due Diligence Guidance for Meaningful Stakeholder Engagement in the Extractives Sector, and in particular how it engages with affected stakeholders. Furthermore, the undertaking shall consider the following:
- (a) the approach to identifying stakeholders within local communities;
 - (b) a description of the vulnerable groups that the organisation has identified within local communities by mine site.

Application Requirement related to [draft] ESRS 2 SBM 3 - Material impacts, risks and opportunities with their interaction with strategy and business model(s)

- AR 6. When disclosing the undertaking's impacts on its own workforce and the local community, it shall consider, where applicable, the undertaking's policies, actions and targets to help own workers and non-employee workers manage the adverse impacts arising from the closure of its operational site(s).
- AR 7. The undertaking shall consider the labour transition plans in place to help workers manage the transition to a post-closure phase of operations (e.g., redeployment, assistance with redeployment, resettlement, and redundancy payments, training and skills programmes).
- AR 8. The undertaking shall also consider the collaborative efforts, projects and programs that are set up to manage the socio-economic impact of closure and restoration programs and disclose these.
- AR 9. The undertaking shall also consider how it engages with worker and other stakeholders in informing the closure plans, as well as notice periods regarding closure.
- AR 10. The undertaking with coal mining operations when disclosing the results of the resilience analysis including the results from the use of scenario analysis (E1-SBM3) shall consider disclosing how future energy demand scenarios may affect its determination of proven reserves. Coal proven reserves are estimated quantities that analyses of geological and engineering data have demonstrated to be economically recoverable in future years from known reservoirs and under current economic conditions, operating methods, and government regulations.

Application Requirement related to [draft] ESRS 2 IRO 1 - Description of the processes to identify and assess material climate-related impacts, risks and opportunities

- AR 11. The undertaking shall analyse the resilience of its current proven and probable reserves using the price trajectories published by the International Energy Agency (IEA) in its World Energy Outlook (WEO) publication, including:

- (a) Current Policies Scenario, which assumes no changes in policies from the mid-point of the year of publication of the WEO.
- (b) New Policies Scenario, which assumes that broad policy commitments and plans that have been announced by countries-including national pledges to reduce greenhouse gas emissions and plans to phase out fossil energy subsidies-occur, even if the measures to implement these commitments have yet to be identified or announced. This broadly serves as the IEA baseline scenario.
- (c) Sustainable Development Scenario, which assumes an energy pathway occurs that is consistent with the goal of limiting the global increase in temperature to 1.5°C by limiting concentration of greenhouse gases in the atmosphere.
- (d) The undertaking shall consider the WEO scenarios as a normative reference, thus any updates to the WEO made year-on-year shall be considered updates to this guidance.
- (e) The undertaking may summarise its findings in the following table format:

Price case	Proven reserves		Probable reserves	
	Product A (measure)	Product B (measure)	Product A (measure)	Product B (measure)
Current policies scenario (base)				
New policies scenario				
Sustainable development scenario				

- AR 12. The undertaking may disclose the resilience of its reserve levels in other price and demand scenarios in addition to those described above, particularly if these scenarios differ depending on the type of coal reserves, regulatory environment in the countries or regions where mining occurs, end-use of the undertaking's products, or other factors.
- AR 13. For additional resilience analyses, the undertaking should consider disclosing the following, per the Task Force on Climate Related Financial Disclosures (TCFD) Recommendations Report Figure 8 as well as the Implementing the Recommendations of the TCFD Report, Section E:
- (a) The alternative scenarios used, including other 2°C or lower scenarios.
 - (b) Critical input parameters, assumptions, and analytical choices for the climate-related scenarios used, particularly as they relate to key areas such as policy assumptions, energy deployment pathways, technology pathways, and related timing assumptions.
 - (c) Time frames used for scenarios, including short-, medium-, and long-term milestones (e.g., how organizations consider timing of potential future implications under the scenarios used).

Application Requirement related to [draft] ESRS E1-1 Transition plan for climate change mitigation

- AR 14. The undertaking with coal mining operations when disclosing information on DR E1-1[16(d)] on potential locked-in GHG emissions from the undertaking's assets and products, undertakings shall consider this to be the emissions potential of proven (P1) and probable (P2) reserves of their coal and peat assets and shall calculate this potential considering the recommendations in (Russel, 2016).

- AR 15. Undertakings shall consider a breakdown of locked-in emissions according to the following table:

Reserves	Proved	Probable	Total
Locked-in emissions	[MtCO ₂]	[MtCO ₂]	[MtCO ₂]

Application Requirement related to [draft] ESRS E1-2 Policies related to climate change mitigation and adaptation

- AR 16. The policies related to methane emission management should provide information on the following aspects:

- (a) Methane emissions from operating mines:
 - i. methane emissions from all ventilation shafts in use by the mine operator;
 - ii. methane emissions from drainage stations and from the methane drainage system, whether occurring as a result of intentional or unintentional venting, or incomplete combustion in flares;
 - iii. methane emissions occurring during post-mining activities.
- (b) Methane emissions from operating surface:
 - i. methane emissions occurring at the coal mine during the mining process;
 - ii. methane emissions occurring during post-mining activities.

Application Requirement related to [draft] ESRS E1-3 – Actions and resources in relation to climate change policies

- AR 17. In relation to the application of best practice in coal methane emission management companies can refer to the “Best Practice Guidance for Effective Management of Coal Mine Methane at National Level: Monitoring, Reporting, Verification and Mitigation” from UNECE.
- AR 18. Application Requirement related to [draft] ESRS E1-6 - Gross scopes 1, 2, 3 and total GHG emissions
- AR 19. The undertaking with coal mining operations should report their Scope 3, Use of sold products based on the volumes of coal sold during the reporting period, instead of coal produced, this is quantities in stock shall not be considered.
- AR 20. Adverse impacts of closure of the operational site on affected communities (DR related to ESRS S3-3)

Application Requirement related to [draft] ESRS E2-2 - Actions and resources related to pollution

- AR 21. When disclosing their environmental monitoring plans, the undertaking shall consider the Report on Monitoring of Emissions to Air and Water from IED Installations ([JRC, 2018](#)).
- AR 22. The undertaking shall consider the application of Best Available Techniques for the prevention and pollution control, as identified in the Best Available Techniques (BAT) Reference Document for the Management of Waste from Extractive Industries ([JRC, 2018](#)).
- AR 23. The undertaking shall consider which actions it has implemented or planned to prevent or mitigate negative impacts from acid mine drainage including which mine sites acid mine drainage is:
 - (a) predicted to occur;
 - (b) has not been actively mitigated, and
 - (c) is not under treatment or remediation.

- AR 24. The undertaking shall report on spills that occurred during the reporting period as well as spills from previous reporting periods that have not been entirely cleaned-up.
- AR 25. The undertaking shall report on actions taken to remediate the impacts of spills.
- AR 26. The undertaking shall clarify whether financial effects or broader impact effects were sought after.

Application Requirement related to [draft] ESRS E2-3 – Targets related to pollution

- AR 27. When disclosing according to the sector agnostic E2-3 – targets related to pollution, the undertaking shall disclose the pollution-related targets it has adopted with regards to the prevention and control of:
 - (a) Acid drainage;
 - (b) tailings from mining;
 - (c) substances discharged to soil and water;
 - (d) substances of concern and substances of very high concern.

Application Requirement related to [draft] ESRS E2-4 Pollution of air, water and soil

- AR 28. The undertaking shall consider disclosing, per operational site, the volume of pollutants and significant emissions over the reporting period. The undertaking shall consider reporting significant emissions, in kilograms or multiples, of the pollutants mentioned in [draft] ESRS E2-4.
- AR 29. The undertaking shall consider disclosing any other pollutant relevant for its environmental management.
- AR 30. When compiling the information specified in the Disclosure Requirement related to ESRS E2-4, the undertaking shall consider explaining:
 - (a) The source of the emission factors used;
 - (b) The standards, methodologies, assumptions, and/or calculation tools used, namely which of the following approaches for calculating significant air emissions:
 - i. Direct measurement of emissions (such as online analysers).
 - ii. Calculation based on site-specific data.
 - iii. Calculation based on published emission factors.
 - iv. Other estimating methods.
- AR 31. For the reporting of number of spills the undertaking shall rely on the pollutants listed in ESRS E2, AR 21 till AR26 as well as the definitions of substances of concern and substances of very high concern defined in Appendix A to ESRS 2 Pollution. In one incident multiple pollutants can be involved.
- AR 32. The most relevant pollutants for Mining and Quarrying are:
 - (a) Hydrogen cyanide;
 - (b) PM 10 & PM 2.5;
 - (c) Carbon Monoxide;
 - (d) Ground Level ozone;
 - (e) Hydrogen sulphide;
 - (f) dioxins/furans,
 - (g) volatile organic compounds (VOCs),
 - (h) polycyclic aromatic hydrocarbons (PAHs),

- (i) pollutants released into water through the mining process while included in the EQSD list of chemicals (Directive 2008/105 of 16 December 2008 on environmental quality standards in the field of water policy).

Dioxins/furans include, but are not limited to, the sum of the 17 congeners of polychlorinated dibenzodioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs) that contain chlorine.

Application Requirement related to [draft] ESRS E2-6 - Potential financial effects from pollution-related impacts, risks and opportunities

- AR 33. In providing the Disclosure requirement related to ESRS E2-6, paragraphs 44 and 45 on closure and rehabilitation costs, the undertaking shall consider the costs necessary to address:
 - (a) Adverse impacts of closure of the operational site on own workers, non-employee workers and their communities (DR related to ESRS2 -SBM 3); and
 - (b) Restoration of material impacts to biodiversity and ecosystems around the closed operational site (DR related to ESRS E4-2).

Application Requirement related to [draft] ESRS E3-4 Water consumption

- AR 34. The undertaking shall consider disclosing information on its water consumption performance according to [draft] ESRS E3-4, per operational site thereby developing a water footprint indicator and how it evolves over time.
- AR 35. Mining activities can reduce water availability for local communities and other sectors that rely on water. They can have impacts on the quality of surface water, groundwater, and seawater, which can translate into long-term impacts on ecosystems and biodiversity, cause health and development problems for humans, and impair food security.
- AR 36. Water is used in mining activities for cooling and cutting; dust suppression during mining and hauling; washing to improve ore quality; re-vegetation of surface mines; and long-distance ore slurry transportation. The amount of water needed for activities depends on whether mining occurs on the surface or underground and on operational efficiency.
- AR 37. The amount of water withdrawn also varies according to an undertaking's ability to substitute the use of freshwater, the quality of water required, reservoir characteristics, and recycling infrastructure.

Application Requirement related to [draft] ESRS E4-3 Actions and resources related to biodiversity and ecosystems

- AR 38. The undertaking shall consider disclosing rehabilitation and restoration plans for operational sites in or near key biodiversity areas.
- AR 39. Rehabilitation seeks to ensure the long-term stability of soils, landforms and hydrology required for the site to establish and sustain a natural ecosystem or vegetation that aligns with the agreed future land use. The second main purpose of rehabilitation is to partially or fully repair the capacity of ecosystems to provide habitats for biota and services for people.
- AR 40. Restoration attempts to return local ecosystem to a previous reference natural status and should be based on an appropriate local indigenous reference ecosystem. It includes local indigenous plants, animals and other biota characteristics of the pre-degradation ecosystem.
- AR 41. Rehabilitation and restoration may be further defined by local, regional, or national laws, industry standards, or the undertaking's own guidelines. The undertaking shall consider disclosing its definition of rehabilitation and restoration and accompanying practices it follows.
- AR 42. Rehabilitation and restoration plans should address the following objectives:
 - (a) the long-term stability and sustainability of the landforms, soils and hydrology of the site;

- (b) the partial or full repair of ecosystem capacity to provide habitats for biota and services for people;
 - (c) the prevention of pollution of the surrounding environment.
 - (d) In the description of its Restoration Plans, the undertaking shall include:
 - (e) A baseline assessment of the local environment pre-mine, which shall include
 - i. The affected ecosystems types;
 - ii. The affected ecosystem size in hectares;
 - iii. The affected ecosystem initial condition;
 - iv. The affected species names;
 - v. The affected species extinction risk;
 - vi. A list of the significant ecosystem services and beneficiaries that will be affected by the undertaking's operations;
 - vii. An explanation of how the ecosystem services and beneficiaries will be affected;
 - viii. Standards, methodologies, assumptions use to make this assessment.
 - (f) A description of the risks for biodiversity and ecosystems;
 - (g) A description of real impacts on biodiversity and ecosystems:
 - i. Report the size in hectares and the type of natural ecosystem converted since the cut-off date or reference date;
 - ii. Report the current state of the ecosystem;
 - iii. Report the current state of species.
 - iv. Standards, methodologies, assumptions use to make this assessment.
 - (h) A description of the goal of the restoration plan (converting the area to a safe and stable condition, restoring the area to pre-mining conditions as closely as possible, near-natural restored ecosystem, reinstating ecosystem functionality or land productivity, etc.)
 - (i) A description of restoration activities and their implementation;
 - (j) Monitoring performance of the restauration activities;
 - (k) Results of the restoration activities.
 - (l) Additional actions to offset negative impacts and transformative actions, including additional conservation actions by the undertaking.
 - (m) To ensure long-term quality of the Restoration process, the undertaking shall:
 - i. Describe their legacy policy on restoration;
 - ii. Describe the quality of the Restoration Plan in relation to local communities;
 - iii. Consider Long-term liabilities, describing the continuation of the Restoration Plan if the area is sold or leaves the undertaking's possession.
- AR 43. Different mining methods present distinct risks for biodiversity. Open-pit mines generate more severe impacts than underground mines due to the progressive deepening and widening of the mining site, increasing affected areas over time. Impacts on biodiversity can result from:
- (a) residual impacts after all other measures have been applied.
 - (b) land clearance for pits, access routes, and expansion into new areas;
 - (c) habitat fragmentation from access roads and other linear infrastructure;

- (d) ground subsidence from underground mines;
- (e) disruption of surface water, wetland, and groundwater ecosystems; and
- (f) effluent discharges, groundwater, or surface water contamination from acid mine drainage, tailings ponds, or overburden piles.

Application Requirement related to [draft] ESRS E5-5 Resource use and circular economy

- AR 44. When disclosing about its waste according to Disclosure Requirement E5-5, the undertaking shall consider the different categories of waste according to the European Waste Catalogue ([Directive 2006/21 of 15 March 2006 on the management of waste from extractive industries](#)).

Application requirement related to [draft] ESRS S1-11 Social protection

- AR 45. In addition to disclosing how its own workers are covered against loss of income due to major life events in [draft] ESRS S1-11, the undertaking may disclose whether all workers in its own workforce are covered by non-occupational medical healthcare services through public programs or through benefits offered by the undertaking
- AR 46. For the workers who do not have their non-occupational medical healthcare services through public programs the undertaking may disclose:
- (a) how the undertaking facilitates workers' access to non-occupational medical and healthcare services, including the scope of their access;
 - (b) a description of voluntary health promotion services and programs offered to workers that address major non-work-related health risks and how the organisation facilitates workers' access to these services and programs.
- AR 47. **Error! Reference source not found.Error! Reference source not found.**Voluntary health promotion programs and services may include:
- (a) smoking cessation programs
 - (b) dietary advice
 - (c) offering of healthy food in the canteen
 - (d) stress-reducing programs
 - (e) provision of a gym or
 - (f) fitness programs.
- AR 48. A program or service is voluntary when it does not set mandatory personal targets, and if incentives are provided, these are not associated with the undertaking's decisions regarding employment or engagement of workers.
- AR 49. In addition, voluntary health promotion services and programs complement but cannot be a substitute for occupational health and safety services, programs and systems that prevent harm and protect workers from work-related injuries and ill health. Voluntary health promotion and occupational health and safety may be managed jointly by the undertaking, as part of an overall approach to ensuring the health and safety of workers.
- AR 50. When describing how it facilitates workers' access to voluntary health promotion services and programs, the undertaking may consider disclosing whether it allows workers to make use of these during paid working hours. The undertaking can also report if these services and programs are available for family members of workers.

Application Requirement related to [draft] ESRS S1-13 Percentage of security personnel receiving training in the undertakings' human rights policies

- AR 51. The undertaking shall consider the content of the trainings offered (eg. differentiate between training related to security issues and training on human rights policies) when preparing this Disclosure Requirement.
- AR 52. The undertaking may disclose whether training is aligned with the Voluntary Principles on Security and Human Rights. Human rights training for security personnel aims at ensuring that force is used only when necessary, and clarify the proportional type of force that can be deployed to different types of threats. Training that addresses the protection of vulnerable and marginalised groups, especially women, children and indigenous populations may be disclosed.

Application Requirement related to [draft] ESRS S1-Appendix B.1 – Application Requirements for ESRS 2 related disclosures

- AR 53. When disclosing the requirements in ESRS S1 Own workforce for ESRS 2 related disclosure the undertaking shall disclose the following datapoints:

Social and human rights matters	Non-exhaustive list of factors to consider in Materiality Assessment
Secure employment	% of posted workers in own workforce
Working time	% of workers regularly working multi-day away-from-home assignments % of workers regularly working evening shifts % of workers regularly working night shifts % of workers regularly working on Saturdays and/or Sundays
Adequate wages	Allowances for housing for away-from-home assignments
Freedom of association/ collective bargaining including the rate of workers covered by collective agreements	% of workers affected by work stoppages

Application Requirement related to [draft] ESRS S1-Appendix B.2 - Application Requirements for ESRS S1-1 Policies related to own workforce

- AR 54. When disclosing the requirements in ESRS S1 Own workforce for policies related to the own workforce the undertaking shall disclose the following datapoints:

Social and human rights matters	Examples of policies
Secure employment	Policies on the use of posted workers
Working time	Policies on advance notice of scheduling, multi-day away-from-home assignments, and evening, night and weekend work
Adequate wages	Policies for housing allowances
Freedom of association/ collective bargaining including the rate of workers covered by collective agreements	% of workers affected by work stoppages

Application Requirement related to [draft] ESRS S1-Appendix B.3 – Application Requirements for ESRS S1-4 Taking action on material impacts on own workforce, and approaches to mitigating material risks and pursuing material opportunities related to own workforce, and effectiveness of those actions

- AR 55. When disclosing the requirements in ESRS S1 Own workforce for actions related material impacts on own workforce the undertaking shall disclose the following datapoints:

Social and human rights matters	Examples of actions
Secure employment	Reducing the percentage of posted workers
Working time	Increased percentage of workers with regular schedules Increased advance notice of scheduling Reducing percentage of multi-day away-from-home assignments, and evening, night and weekend work
Adequate wages	Increasing housing allowances
Freedom of association/ collective bargaining including the rate of workers covered by collective agreements	Percentage of workers affected by work stoppages

Application Requirement related to [draft] ESRS S1-Appendix B.4 – Application Requirements for ESRS S1-5 Targets related to managing material negative impacts, advancing positive impacts, and managing material risks and opportunities

- AR 56. When disclosing the requirements in ESRS S1 Own workforce for targets related to managing material negative impacts the undertaking shall disclose the following datapoints:

Social and human rights matters	Examples of targets
Secure employment	Reducing the percentage of posted workers
Working time	<ul style="list-style-type: none"> • Increased percentage of workers with regular schedules • Increased advance notice of scheduling • Reducing percentage of multi-day away-from-home assignments, and evening, night and weekend work
Adequate wages	Adequate housing allowances
Freedom of association/ collective bargaining including the rate of workers covered by collective agreements	Percentage of workers affected by work stoppages

Application Requirement related to [draft] ESRS S3-2 Processes for engaging with affected communities about impacts -

- AR 57. When disclosing the engagement with human rights and environmental defenders, the undertaking shall consider its processes for engaging with human rights and environmental defenders as part of its due diligence processes, including on managing allegations of

retaliations, threats and direct/indirect attacks (physical and legal – including all forms of judicial harassment) against defenders.

- AR 58. The description of how an undertaking engages with local communities shall also consider an explanation on how the land will be used ex post the closure of the operational site. Where applicable, the undertaking shall develop such post-closure plans in consultation with local communities.
- AR 59. At the end of their commercial use, operational sites such as mines and other facilities are expected to be decommissioned or closed by the undertaking in an orderly way. Closure activities can include:
- (a) Stabilisation of open-pit or underground workings, such as landfilling to prevent subsidence;
 - (b) Removal or conversion of infrastructure;
 - (c) Rehabilitation of waste rock stockpiles and tailings facilities to control erosion and land degradation;
 - (d) Management of waste, surface water and groundwater quality issues resulting from abandoned mine drainage, waste rock and leaching's from tailings; and
 - (e) Post-closure environmental and socio-economic monitoring.
- AR 60. The operational life of operational sites may last for several decades a regularly updated restoration plan is essential. For this reason, the undertaking may update its closure and restoration plan annually and such disclosure shall be considered by the undertaking.

Application Requirement related to [draft] ESRS S3-2 Processes for engaging with affected communities about impacts

- AR 61. When describing responding to ESRS S3-2, the undertaking shall consider:
- (a) its due diligence practices and procedures with respect to indigenous rights of communities in which it operates or intends to operate, specifically: upholding internationally recognized rights of Indigenous peoples, including but not limited to those recognized by the UN Declaration on the Rights of Indigenous Peoples, and the ILO Convention No. 169;
 - (b) the use of free, prior, and informed consent (FPIC) (or consultation) processes as per the United Nations Declaration on the Rights of Indigenous Peoples;
 - (c) The undertaking shall also consider the governance mechanisms that have been put in place to ensure that its policies and practices followed by the undertaking.
- AR 62. The undertaking may include how practices apply to business partners, such as contractors, sub-contractors, suppliers, and joint venture partners. Where practices do not apply to business partners, the undertaking may discuss factors that prevent the application of such practices.

Application Requirement related to [draft] ESRS S3-3 Processes to remediate negative impacts and channels for affected communities to raise concerns – Closure and post closure

- AR 63. When disclosing its processes to remediate negative impacts following [draft] ESRS S3-3, the undertaking shall consider how it engages with local communities and other relevant stakeholders on its closure and post-closure planning and implementation, including post-mining land-use, to limit the actual and potential adverse impacts (e.g. unemployment, people moving out affecting the liveability of remaining supporting activities such as local shops, schools).

Application requirement related to [draft] S3-4 Taking action on material impacts, and approaches to mitigating material risks and pursuing material opportunities related to affected communities, and effectiveness of those actions and approaches

AR 64. If the undertaking has an operation site in or near indigenous lands as listed in MIN 1 the undertaking shall consider:

- (a) its interactions with indigenous peoples, including but not limited to means of communication, language used, frequency;
- (b) where applicable, the co-ownership programs developed for indigenous peoples and local communities. This includes equity shares acquired by communities and their value;
- (c) the most recent examples of involvement in the process of seeking free, prior, and informed consent from indigenous peoples to any of the undertakings' activities, and whether an agreement has been reached and if it is publicly available.

AR 65. In addition, the undertaking may disclose the approach taken in recognising the legitimate tenure rights holders when acquiring, leasing or making other arrangements to use, or restrict the use of, land as well as to providing remediation following involuntary resettlement either through monetary or asset compensation.

Application Requirements related to new disclosures

Application Requirement MIN 1 – List of operational sites

AR 66. When disclosing on MIN 1 the undertaking may use a table to list the mine sites. See example:

	Operational site A	Operational site B	Operational site C	Operational site D etc.
Mines and surface areas				
Quarries				
Tailings dams				
Infrastructure				
Active /closure & rehabilitation plans / closure activities / closed / rehabilitated				
Social matters (i.e. local community, indigenous communities, land rights etc.)				
Environmental matters (i.e. biodiversity, pollution, toxic waste etc.)				

AR 67. When identifying the operational site the undertaking shall also specify what it considers to be local for that particular site. It is expected that this will be assessed at a more granular level than national. When doing this the undertaking shall consider:

- (a) Stakeholders
- (b) Geographical location

- (c) Positive and negative social impacts
- (d) Labour market

Application Requirement MIN 2 – Proved and probable reserves

- AR 68. The undertaking shall consider the percentage and grade (in percentage metal content) of proved reserves that are located in or near high-risk areas.
- AR 69. The percentage of proved/probable reserves shall be calculated as the amount of proved/probable reserves located in or near areas of high risk divided by the total amount of proved/probable reserves
- AR 70. The undertaking shall provide a breakdown of the calculations by grade (in percentage metal content) of proved/probable reserves.
- AR 71. The undertaking shall, where relevant, provide a breakdown of calculations by mineral or business unit where minerals or business units include, for example: aluminium, copper, zinc, iron ore, platinum group metals, and diamonds.
- AR 72. The undertaking may follow the Combined Reserves International Reporting Standards Committee (CRIRSCO) guidance for classifying ore reserves and mineral resources, including the use of a "competent person" to compile information.
- AR 73. The undertaking shall also disclose/ consider disclosing their process of identifying the high-risk areas in a way that is easy to understand and replicate.
 - (a) In or near areas of conflict
 - i. Reserves shall be considered to be in or near an area of active conflict if they are located in the same country as the active conflict.
 - ii. If the undertaking can demonstrate that a conflict is contained to a region, state, or designated area that is not proximate to its reserves, then it may exclude these from the scope of disclosure. If reserves are located in a country, region, or state adjacent to an active conflict and/ or can be reasonably expected to be operationally impacted by the conflict, then these reserves shall be included in the scope of disclosure.
 - (b) In or near indigenous land
 - i. Indigenous lands are considered those occupied by indigenous people which are defined in ESRS S3 as: "indigenous peoples are generally identified as 1) tribal peoples in independent countries whose social, cultural and economic conditions distinguish them from other sections of the national community, and whose status is regulated wholly or partially by their own customs or traditions or by special laws or regulations; 2) peoples in independent countries who are regarded as indigenous on account of their descent from the populations which inhabited the country, or a geographical region to which the country belongs, at the time of conquest or colonisation or the establishment of present state boundaries and who, irrespective of their legal status, retain some or all of their own social, economic, cultural and political institutions.
 - (c) In countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index
 - i. The undertaking may use the most current version of Transparency International's Corruption Perception Index to identify the 20 lowest ranking countries.
 - ii. The 20 lowest numerical ranks shall be used to generate the scope of countries. Due to the fact that multiple countries share many ranks, the scope may include more than 20 countries.

- AR 74. The undertaking shall also disclose/ consider disclosing operations that are located in countries with low rankings in the index but present low business ethics risks. As well as operations located in countries that do not have one of the 20 lowest rankings in the index, but which present unique or high business ethics risks.

Environmental related requirements

Application Requirement MIN 3-E2 - Tailings facilities and impoundments

- AR 75. The undertaking may consider a third party to assess the hazard potential. The three different hazard potential classifications are:
- (a) High hazard potential
 - (b) Significant hazard potential
 - (c) Low hazard potential
- AR 76. High hazard potential impoundments are dams, regardless of their condition or size, whose failure will probably cause loss of life. These facilities are generally located in populated areas or where dwellings are found in the flood plain, and failure can reasonably be expected to cause loss of life, serious damage to homes, industrial and commercial buildings, and damage to important utilities, highways, or railroads.
- (a) Significant hazard potential impoundments are dams, regardless of their condition or size, whose failure would result in no probable loss of life but would disrupt important utilities or cause significant economic loss or significant environmental damage. These facilities are generally located in predominantly rural areas, but could be in populated areas with significant infrastructure, where failure could damage isolated homes, main highways, and minor railroads, or disrupt the use of service of public utilities.
 - (b) Low hazard potential impoundments are dams whose failure would not be expected to cause loss of life, disrupt important utilities, or cause significant economic loss or significant environmental damage. These facilities are usually located in rural or agricultural areas where losses are limited principally to the owner's property or where failure would cause only slight damage to farm buildings, forest and agricultural land, and minor roads.
 - (c) The scope of this disclosure includes only dams that either: (1) Equal or exceed 7.5 meters in height and can or do store a volume of more than 18.500 cubic meters, or (2) Exceed 1.8 meter in height and can or do store 61.500 or more cubic meters.
 - (d) Hazard potential classification depends solely on the consequences of failure of the dam and not on the condition of the dam. Hazard potential classification can change over time.
 - (e) Relative to paragraph 94, the amount of tailing waste produced to be reported as follows:
 - i. the amount of total tailings waste shall be calculated in metric tons;
 - ii. the scope includes tailings waste generated from mining activities; and
 - iii. the scope of the disclosure excludes waste rock and overburden.

Social related requirements

Application Requirement MIN 7-S3 – Human rights defenders

- AR 77. When calculating the number of incidents in paragraph 107, the undertaking shall consider official sources such as policy reports or other reports issued by governmental organisations. The undertaking shall not consider unofficial sources e.g social media.

Application Requirement MIN 8-S3 – Percentage of security personnel receiving training in undertaking’s human rights policies

- AR 78. The undertaking may consider disclosing the content of the training offered (e.g., differentiate between trainings related to security issues and trainings on human rights policies).
- AR 79. The undertaking shall explain if the training provided is aligned with the Voluntary Principles on Security and Human Rights. Human rights training for security personnel aims at ensuring that force is used only when necessary and shall clarify the proportional type of force that can be deployed to different types of threats. Training that addresses the protection of vulnerable and marginalised groups, especially women, children and indigenous populations may be disclosed.

Application Requirement MIN 10-S3 – Workforce hired from local communities

- AR 80. Workers hired from local communities include those individuals either born or who have the legal right to reside indefinitely (such as naturalized citizens or permanent visa holders) in the same geographic market as the operation. The geographical definition of ‘local’ can include the community surrounding operations, a region within a country, or a country.

Governance related requirements

Application Requirement MIN 12-G1 – State aid and competition law

- AR 81. When reporting in accordance with paragraph 123, the undertaking may include a breakdown of payments to governments and the following revenue streams, if applicable:
 - (a) The host government’s production entitlement;
 - (b) National state-owned company production;
 - (c) Royalties;
 - (d) Dividends;
 - (e) Bonuses (e.g., signature, discovery, and production bonuses);
 - (f) License fees, rental fees, entry fees; and other considerations for licenses or concessions;
 - (g) Any other significant payments and material benefits to government.

The undertaking shall also report the value of any thresholds that have been applied and any other contextual information necessary to understand how the project-level payments to governments reported have been compiled.

Appendix C: List of datapoints required by EU law

This appendix is an integral part of the [draft] ESRS Mining, Quarrying and Coal. The table below illustrates the datapoints that emanate from other EU legislation. These are to be reported irrespective of the outcome of the materiality assessment.

Disclosure Requirement and related datapoint	Pillar 3 reference
DR related to ESRS 2-SBM 1 Market position, strategy, business model(s) and value chain, paragraph 21	Article 449a Capital Requirements Regulation – CRR – Template 1: Banking book – Climate change transition risk: Credit quality of exposures by sector, emissions and residual maturity
DR MIN 1 – List of operational sites, paragraph 82(a)	Article 449a Capital Requirements Regulation – CRR – Template 1: Banking book – Climate change physical risk – Exposures subject to physical risk
DR related to ESRS E1-6 – Gross scopes 1, 2, 3 and total GHG emissions, paragraph Error! Reference source not found.	Article 449a Capital Requirements Regulation – CRR – Template 1: Banking book – Climate change transition risk: Credit quality of exposures by sector, emissions and residual maturity
DR related to ESRS E1-6 – Gross scopes 1, 2, 3 and total GHG emissions, paragraph Error! Reference source not found.	Article 449a Capital Requirements Regulation – CRR – Template 3 – Banking book – Climate change transition risk – Alignment risks

Appendix D: Sustainability Matters Mining, Quarrying and Coal

This Appendix presents a description of the sustainability matters that are material for undertakings in the Mining, Quarrying and Coal sector. It has the same authority of the main body of the standard and of Appendix B.

Descriptions of sustainability matters

E1: Climate change adaptation

Mining and quarrying

Mining and metals production is often energy-intensive, with a significant proportion of energy consumption in the sector accounted for by purchased electricity. While fuel combustion on-site contributes to the sector's direct (Scope 1) GHG emissions, electricity purchases from the grid can result in indirect, Scope 2 emissions. The energy intensity of operations may increase with decreasing grades of deposits and increasing depth and scale of mining operations. The choice between on-site versus grid-sourced electricity, and use of alternative energy, can play an important role in influencing both the costs and reliability of energy supply. Affordable and easily accessible energy is an important competitive factor in a commodity market driven by global competition and purchased fuels and electricity can account for a significant proportion of total production costs. The way in which an undertaking manages its overall energy efficiency and intensity, its reliance on different types of energy, and its ability to access alternative sources of energy, can therefore be a material factor.

Coal

Coal operations generate significant amounts of CO₂ emissions and have the highest intensity per energy unit out of all fossil fuels. This topic covers how a undertaking in this sector adapts to risks derived from climate change and its contributions to society to handle these impacts. Due to the high intensity of CO₂ emissions, this topic sheds a light on the transition the undertaking is undergoing towards becoming low carbon. This would include the different alternatives they may have to contemplate to reduce emissions while developing coal activities and what effect these changes may have on the undertaking's employees and the communities in which coal activities take place.

E1: Energy

Mining, quarrying and coal

Mining operations are energy-intensive and generate significant direct greenhouse gas (GHG) or CO₂e emissions, including carbon dioxide from fuel use during mining, ore processing, and smelting activities. For coal operations the release of GHG emissions includes carbon dioxide from fuel use and methane released from coal beds during mining and post-mining activities.

Energy-intense production has implications for climate change, and electricity purchases from the grid can create indirect Scope 2 emissions. Emission intensity will also depend on the method used, open pit or underground mining, excavation type, depth of the mine and volumes of fugitive methane released. Underground mining is found to result in more GHG or CO₂e emissions. The extent and type of GHG emissions can vary depending on the metal mined and processed.

Regulatory efforts to reduce GHG emissions in response to the risks posed by climate change may result in additional regulatory compliance costs and risks for metals and mining undertakings due to climate change mitigation policies. Operational efficiencies can be achieved through the cost-effective reduction of GHG emissions. Such efficiencies can mitigate the potential financial impact of increased fuel costs from regulations that seek to limit-or put a price on-GHG emissions.

Similar to Mining, quarrying also requires a significant quantity of energy, sourced primarily from direct combustion of fossil fuels as well as from purchased electricity. Quarries also use alternative fuels for their kilns, such as scrap tires and waste oil—often waste generated by other industries. If properly managed, these can lower energy costs and greenhouse gas (GHG) emissions. However, there could

be potentially negative impacts, such as releases of harmful air pollutants that undertakings need to minimize in order to obtain net benefits from using such fuels. Decisions about use of alternative fuels, renewable energy, and on-site generation of electricity (versus purchases from the grid) can play an important role in influencing both the costs and reliability of energy supply. Affordable, easily accessible, and reliable energy is an important competitive factor in this industry, with purchased fuels and electricity accounting for a significant proportion of total production costs. The way in which a quarry manages its overall energy efficiency, its reliance on different types of energy and associated sustainability risks, and its ability to access alternative sources of energy can influence its profitability.

E2: Pollution of Air

Mining and quarrying

Non-greenhouse gas (GHG) air emissions in this sector include hazardous air pollutants, criteria air pollutants, and Volatile Organic Compounds (VOCs) from smelting and refining activities. These can have significant, localized human health and environmental impacts. Depending on the metal, uncaptured sulphur dioxide, lead, mercury, cadmium, and arsenic are among the chief pollutants, along with particulate matter. Depending on the type of mining, i.e. open pit mining or underground mining the pollution of air differs. Underground mining is found to result in more GHG emissions than open pit mining.

Financial impacts resulting from air emissions will vary depending on the specific location of operations and the applicable air emissions regulations. Active management of the issue-through technological and process improvements-could allow undertakings to limit the impacts of increasingly stringent air quality regulations globally. Undertakings could also benefit from operational efficiencies that could lead to a lower cost structure over time.

On-site fuel combustion and production processes in the quarrying sector emit air pollutants and hazardous chemicals, including, small quantities of organic compounds and heavy metals. Emissions of particular concern include nitrogen oxides, sulphur dioxides, particulate matter, heavy metals (e.g., mercury), lead, cadmium, dioxins, and volatile organic compounds, among others. In addition, the quarrying sector is one of the biggest users of dynamite to blast rock aiding the excavation, resulting in dust particles being spread in the air. These air emissions can have significant, localised human health and environmental impacts.

Coal

Coal operations have an impact on the quality of air. Coal operations are emission intensive. Coal operations result in the emission of different gases during the entire operational process, from the drilling, refining, and transporting, to the transportation and waste management. This topic covers the emissions of Sulphur oxides (SO_x), nitrogen oxides (NO_x), carbon monoxide (CO), particulate matter (PM), heavy metals, persistent organic pollutants (POPs), volatile organic compounds (VOCs), ozone depleting substances (ODS), ammonia (NH₃), and other (hazardous) chemicals regulated by REACH and CLP and their compounds, several types of dust particles as well as other physical pollutants. These emissions are particular to the coal operations. This topic would additionally cover the efforts from undertakings to reduce the emissions of the above-mentioned gases and the impact these have on ecosystems, the health and safety of employees and local communities, as well as the economic and social effect these may have on society.

E2: Pollution of Water

Mining, quarrying and coal

Mining, quarrying and coal operations can impact both the availability and the quality of local water resources. Quarrying requires substantial volumes of water for the production process and also coal operations are water intensive.

For quarries, the use and spill of nitro-glycerine also may affect ground water or water basins as well as the animals living in it. For coal operations, the use of water in coal washing to remove sulphur, in cooling drilling equipment, and in transporting coal in slurry pipelines can impact resources.

Mining, quarrying and coal undertakings face operational, regulatory, and reputational risks due to water scarcity, costs of water acquisition, regulations on effluents or amount of water used, and competition with local communities and other sectors for limited water resources. Wastewater treatment and discharge is often regulated by national or local agencies. For coal undertakings, violating limits on selenium, sulphate, and dissolved solids could affect coal operations undertakings through significant penalties, compliance costs, delays in production, or higher costs related to mine closure

Impacts associated with water management may include higher costs, liabilities, and lost revenues due to curtailment or suspension of operations. The severity of these risks can vary depending on the region's water availability and the regulatory environment. Undertakings that are unable to secure a stable water supply could face production disruptions, while rising water prices could directly increase production costs. Consequently, the adoption of technologies and processes that reduce water consumption could lower operating risks and costs for undertakings by minimizing the impact of regulations, water supply shortages, and community-related disruptions on the operations of the undertaking. Undertakings in the sector may deploy new technologies to manage risks related to water risk, including desalination, water recirculation, and innovative waste-disposal solutions. Reducing water use and contamination can create operational efficiencies for undertakings and lower their operating costs.

E2: Pollution of Soil

Mining, quarrying and coal

Mining, quarrying and coal activities are one of the most important anthropic causes of soil degradation and pollution in the world, according to scientific research. Mine soils in post-mining locations have great spatial variability in their properties (e.g., pH, particle size distributions, PTEs content), and are largely dependent on the characteristics of the ore that was processed and on the materials which were deposited at the site and can persist over time. Violating limits of pollutants allowed could affect operations of the undertakings through significant penalties, compliance costs, delays in production, or higher costs related to mine closure. Soil can retain pollution for a very long time while slowly passing on the contamination to groundwater, surface water and air.

E2: Substances of concern

Mining, coal

Mining and coal operations can have extensive impact on the environment. For this reason, undertakings shall disclose and take into account multiple factors when designing a mine. These factors shall include whether the mine could be designed to be underground rather than open-pit, what happens after its life, the productivity of it and the time of year it is productive. Further to this, in mining processes certain substances are used that can have an impact on the environment and human health.

This covers impacts from carcinogenic, mutagenic or reprotoxic substances (CMRs), persistent, bioaccumulative and toxic substances (PBTs); very persistent and very bioaccumulative substances (vPvBs); endocrine disrupting substances (EDs); immunotoxins; neurotoxicants, respiratory sensitizers; substances having specific organ toxicity (STOT) with chronic effects; persistent, mobile and toxic substances (PMTs) and very persistent and very mobile substances (vPvMs); as well as other substances having a chronic effect on human health or the environment (emphasizing on mercury) and substances hampering recycling for safe and high quality secondary raw materials. Undertakings face the risk that regulation may restrict or ban the use of particular chemicals such as through the REACH and EQSD requirements.

Mercury release during coal burning operations can have a detrimental effect mainly on marine ecosystems, thus on human health. The production of synthetic graphite can be obtained from coal char, which could be a substitute material of graphite.

The coal industry presents several hazards which undertakings must prevent and address. Some examples include ground or strata failure, fires or (methane) explosions, inundation or inrush of any substance, and others. It is therefore critical that risk management plans are put in place, along with related remedial actions for workers, communities, and the environment. Appropriate tailings management plays an important role in minimising the risk for industrial hazards occurring. Underground mining can suffer from dust explosions, inundation, mining corridor collapses or others. Open pit mining can suffer from landslides, water inbursts, machinery failures and others. Other causes for industrial hazards relate to tailings management. Failures can result from inadequate water management, overtopping, foundation or drainage failure, erosion, and earthquakes.

E2: Industrial hazards

The mining and coal industry presents several hazards which undertakings must prevent and address. Some examples include: ground or strata failure, fires or explosions, inundation or inrush of any substance (including from mine tailings dam failures), and others. Underground mining can suffer from dust explosions, inundation, mining corridor collapses or others. Open pit mining can suffer from landslides, water inbursts, machinery failures and others. Other causes for industrial hazards relate to tailings management. Failures can result from inadequate water management, overtopping, foundation or drainage failure, erosion, and earthquakes. It is therefore critical that risk management plans are put in place (amongst others for tailing dams, to avoid ruptures or spill overs), along with related remedial actions for workers, communities and the environment. Appropriate tailings management plays an important role in minimising the risk for industrial hazards occurring.

E2: Pollution of living organisms and food resources

Common coal, mining and mineral processing activities that contribute to noise pollution include overburden removal, drilling and blasting, excavating, crushing, loading and unloading, vehicular traffic, and the use of generators. Noise generated by mining operations is often of higher intensity than natural noise, and mining operations can occur throughout the night. Noise pollution can have a direct and lasting impact on workers, nearby communities and biodiversity.

E3: Water use

Mining, quarrying and coal

Mining operations, depending on their geographical and geological location, must manage water consumption, flood risks, water quality and other issues. Environmental factors and climate contribute to the complexity of developing a mine water management system in many cases used to heat water to create a steam and generate electricity. In dry climates, an undertaking may need to focus more on conservation, collecting, storing, and reusing contact water from the tailing's storage facility, seepage, open pit, and/or underground mine. For wet climates the greatest challenge is rather managing flood events and eliminating the risks of spilling, erosion, and infrastructure failure. Undertakings in cold climate regions must consider the large quantity of water generated from snow melt and ice thaw and manage the impacts of permafrost on drainage facilities. Each mine site requires a tailored and holistic solution. Risks related to water use and management are also linked to the social license to operate and wider community well-being, ensuring availability and good quality of water to nearby communities. Water abstraction is in many areas only possible through obtaining the necessary permits.

E3: Habitat degradation and intensity of pressure on marine resources

Mining and coal activities produce large volumes of waste, formed by the non-processed rock from overburden or access tunnels and shafts, and by the processed tailings. Traditionally, tailings are stored in land dams, but the lack of land availability, potential risk of dam failure, geological instability, and

topography in coastal areas in certain countries makes consideration of disposal of tailings into marine systems, a process usually known as Deep-Sea Tailings Disposal. DSTD can have lasting impacts on biodiversity, ocean ecosystems as well as on fishing communities.

Other impacts that mining can have is around waste disposal in coastal ecosystems, which must be carefully managed. Finally, some undertakings are currently exploring deep-sea bed mining however it is worth noting that no agreement by the International Seabed authority has yet been reached on this, and whether it is deemed a safe practice.

E4: Impacts on the extent and condition of ecosystems

The development, operation, closure, and remediation of mines can have a range of impacts on biodiversity, such as alterations of landscape, vegetation removal, and impacts to wildlife habitats. Acid rock drainage is a particularly significant risk: it is highly acidic water, rich in heavy metals, formed when surface and shallow subsurface water come into contact with mining overburden. Acid mine drainage can have harmful effects on humans, animals, and plants. Similarly tailings management will play an important role. Biodiversity impacts of mining operations can affect the valuation of reserves and create operational risks. The environmental characteristics of the land where reserves are located could increase extraction costs due to increasing interest in the protection of ecosystems. Undertakings could also face regulatory or reputational barriers to accessing reserves in ecologically sensitive areas. This may include new protection status afforded to areas where reserves are located. Mining undertakings face regulatory risks related to reclamation after a mine is decommissioned, per applicable regulatory requirements to restore mined property according to a prior, approved reclamation plan. Material costs may arise from removing or covering refuse piles, meeting water treatment obligations, and dismantling infrastructure at the end of life. Furthermore, ongoing mining operations are subject to laws protecting endangered species. Undertakings that have an effective environmental management plan for different stages of the project lifecycle may minimize their compliance costs and legal liabilities, face less resistance in developing new mines, and avoid difficulties in obtaining permits, accessing reserves, and facing delays in project completion.

Quarries are often operated close to processing facilities. Quarrying requires the removal of vegetation and topsoil. It also requires the blasting and crushing of underlying stone deposits. The process can lead to permanent alterations of the landscape, with associated impacts on biodiversity. The environmental characteristics of the land where quarrying takes place could increase extraction costs, due to increasing awareness and protection of ecosystems. The use and spill of nitro-glycerine also may affect ground water or water basins as well as the animals living in it. Undertakings could also face regulatory or reputational barriers to accessing sites in ecologically sensitive areas. This may include new protection status afforded to areas where reserves are located. Ongoing quarrying operations may also be subject to laws protecting endangered species. Undertakings that have an effective environmental management plan for different stages of the project lifecycle—including restoration during site decommissioning—could minimize their compliance costs and legal liabilities. These undertakings could face less community resistance in quarrying at new sites and avoid difficulties in obtaining permits and delays in project completion.

E4: Direct impact drivers of biodiversity loss

Mining, quarrying and coal

Mining, quarrying and coal operations make substantial impacts on the earth and nature around them. Surface mining and mountaintop removal can alter the landscape, removing vegetation and wildlife habitats. Acid mine drainage is particularly significant: it is highly acidic water, rich in heavy metals, formed when surface and shallow subsurface water comes into contact with mining overburden, and can have harmful effects on humans, animals, and plants. Similarly tailings management will play an important role. Biodiversity impacts of coal operations can affect the valuation of reserves and create operational risks. The environmental characteristics of the land where reserves are located could increase extraction costs as a result of increasing awareness and protection of ecosystems.

undertakings could also face regulatory or reputational barriers to accessing reserves in ecologically sensitive areas, such as the designation of areas where reserves are located as protected areas.

Undertakings face regulatory risks related to reclamation after a mine is decommissioned, per applicable regulatory requirements to restore mined property according to a prior, approved reclamation plan. Material costs may arise from removing or covering refuse piles, fulfilling water treatment obligations, and dismantling infrastructure at the end of life. Furthermore, ongoing operations are subject to laws protecting endangered species. Undertakings that have an effective environmental management plan for different stages of the project lifecycle may minimise their compliance costs and legal liabilities, face less resistance in developing new mines, avert delays in project completion, and avoid difficulties in obtaining permits and accessing reserves.

E5: Resources inflows, including resource use

Mining and quarrying

Mining and quarrying operators are increasingly supporting applications and facilitating efforts towards recovery and re-use of minerals. This includes choices made by product designers and engineers (e.g., material and process technology selection) which can ultimately have significant influence on a product's overall environmental impact. Resource productivity, conserving energy and water (in particular reducing their water footprint), and preventing environmental health and safety risks improves the financial performance of mining operations and helps secure their continued license to operate.

Coal

Estimates suggest that coal undertakings may be unable to extract a significant proportion of their coal reserves if greenhouse gas (GHG) emissions are to be controlled to limit global temperature increases to two degrees Celsius per the Paris Agreement. Stewardship of capital resources while taking into account medium-to long-term trends, particularly related to climate change mitigation actions, is critical in order to prevent asset impairment and maintain profitability and creditworthiness. Globally, regulations and policies are and may continue to be put into place to limit GHG emissions from coal-fired power plants - the customers of coal undertakings - thus lowering the demand for, and subsequently the prices of, coal. Coal demand is also being affected by regulations governing other harmful air emissions that apply to coal-fired power plants. An expansion of GHG-mitigation regulations may increase the magnitude of potential financial impacts in the medium to long term. Along with improved competitiveness of alternative energy technologies, this poses a long-term risk for the reserves and capital expenditures of coal operations undertakings.

E5: Waste

Mining and quarrying

The Mining sector generates large volumes of mineral processing and smelting wastes, including slags and tailings, some of which may be hazardous or chemically reactive. Impoundments for tailings can cover large areas of land. This can present a significant threat if the impoundments burst, collapse, or leak, leading to the loss of life or damage to property and ecosystems. Mineral waste is also often stored in-pit, using abandoned open pit surface mines. Such storage can create the potential for groundwater contamination instead of the risk of surface water contamination associated with open-pit waste heaps.. Some mining activities can take place in coastal or deep-sea ecosystems, which can result in pollution of marine ecosystems if the waste processing is not accordingly managed. Undertakings that reduce and recycle waste streams while implementing policies to manage risks related to the integrity of tailings facilities may enjoy lower regulatory and litigation risks, remediation liabilities, and costs. Additionally, tailings can contain hazardous chemical residues from extraction and processing operations. Undertakings' ability to manage the sourcing, transport, use, and disposal of mineral processing waste and by-products can reduce associated risks.

Recycling rates in quarrying are high. However, wastes from production processes, pollution control devices, and from hazardous waste management activities present a regulatory risk and can raise

operating costs. Cement kiln dust (CKD)—consisting of fine-grained, solid, highly alkaline waste removed from cement kiln exhaust gas by air pollution control devices—is the most significant waste category in the industry. Regulatory risk remains from evolving environmental laws, including those at local and national levels and for other waste streams. Undertakings that reduce waste streams—hazardous waste streams in particular—and recycle by-products, can therefore lower regulatory and litigation risks and costs.

Coal

Handling of solid rock and clay waste, process refuse, and liquid coal waste containing hazardous substances like mercury, arsenic, and cadmium poses operational and regulatory challenges for coal operations undertakings. Coal slurry or tailings ponds can present a significant threat if the impoundments burst, collapse, or leak, leading to destruction of lives, property, and ecosystems, with associated financial impacts that may include regulatory penalties, compensation payments, and remediation or compliance obligations. Permitting of coal mining operations may be affected, lowering an undertaking's revenue or requiring additional expenditures prior to approval. undertakings' ability to lower the number and size of tailings ponds and ensure the structural integrity of impoundments can help minimize such impacts.

E5: Product innovation

Innovations in building materials are a key component in the growth of quarries. Consumer and regulatory trends are largely driving adoption of sustainable building materials and processes that are more resource efficient and can reduce health impacts of buildings throughout their lifecycle. This is creating new business drivers for quarries, with an opportunity to increase revenues. Furthermore, some new products require less energy to produce, or use largely recycled inputs, reducing production costs. Sustainable construction materials, therefore, can contribute to a undertaking's long-term growth and competitiveness.

S1: Working time and work-life balance

Mining and coal operations are often located outside of city centre and in areas where usually people do not live. As a result, workers are often on mine sites for long periods of time and can be flown in and out of the mine site. This may result in an unbalanced work-life and extensive amounts of working time without time for family, recreation, and leisure.

S1: Health and safety

Mining and coal operations can be both strenuous and dangerous and can therefore lead to a high risk of injuries at the workplace; thus, this sustainability matter covers the undertakings policies regarding health and safety, critical incident risk management, as well as workforce health, wellbeing, and safety. Due to the high risk of mines this topic also covers security arrangements, asset integrity and critical incident management. Moreover, considering the recent covid-19 pandemic, the sustainability matter also covers pandemic preparedness and the undertakings response withing it's value chain.

Employees and contractors of quarries face significant health and safety risks. Industry hazards include those arising from the use of heavy equipment and from quarrying operations. In addition to acute impacts, workers can develop chronic health conditions from silica dust inhalation, among other factors. Due to these hazards, the industry has relatively high fatality rates, and many undertakings have implemented a strong safety culture and health and safety policies to mitigate associated risks. Worker injuries, illnesses, and fatalities can lead to regulatory penalties, negative publicity, low worker morale and productivity, and increased healthcare and compensation costs.

S1: Adequate wages and secure employment

Mining and coal undertakings often acquire workers through procurement and suppliers which increases the risk of low wages and unsecure employment practices. This is particularly material for the

mining sector given the amount of artisanal and small-scale mining within the industry who, due to their small scale, don't have the governance structure and protection in place to ensure their worker's rights.

Secure employment is also particularly material for the mining industry as the closure of mine sites can lead to mass unemployment for the local community.

S1: Freedom of association and collective bargaining

The mining and coal sector has traditionally had a strong presence of trade unions and collective agreements, however, there is a risk that these rights are not enforced in locations where these are not guaranteed by national legislation, especially when the workers are employed through a supplier. This sustainability matter includes not only the undertakings work to ensure freedom of association for its workers, but also its actions to ensure this for the local community.

S1: Training and skills development

Mining and coal operations can be both technically difficult and dangerous and it is therefore imperative that the workers are properly trained and have the skills and capabilities to handle the security risks that working in the mine entails.

Mines may be placed in the middle or close to active conflict, they may also be the subject of controversy which leads to the necessity of security personal. This sustainability matter includes training of security personal in human rights and humanitarian law.

S1: Measures against violence and harassment in the workplace

Due to the mining and coal industry being a male dominated industry there is a risk for sexual harassment and other gender-related violence in the workplace. It is important that undertakings have a clear policy on these aspects and proper reporting mechanisms that properly deal with cases when they are presented.

S1: Diversity, including gender equality and equal pay for work of equal value

The mining and coal industry has traditionally been a male-dominated industry, with few women in the workforce. Ensuring workforce inclusion, diversity, and that women and other minorities have equal opportunities is therefore an important aspect of sustainability within the mining industry.

S1/S2: Child labour

Mining and coal operations commonly involve many business relationships from a wide range of suppliers and are often in countries where human and workers' rights may have poor enforcement rates. This includes artisanal and small-scale mining suppliers. There is therefore a higher risk for child labour in their operations and supply chain. This sustainability matter therefore includes the undertaking's efforts to tackle these risks, the organization's supply chain management and whether it ensures that it is ethical, sustainable, and ensures protection of all their suppliers' rights.

S1/S2: Forced labour

Mining and coal operations commonly involve many business relationships from a wide range of suppliers and are often in countries where human and workers' rights may have poor enforcement rates. This includes artisanal and small-scale mining suppliers. There is therefore a higher risk for forced labour in their operations and supply chain. This sustainability matter therefore includes the undertaking's efforts to tackle these risks, the organization's supply chain management and whether it ensures that it is ethical, sustainable, and ensures protection of all their suppliers' rights.

S1/S2: Adequate housing, including water and sanitation.

Mining and coal operations are often located in remote locations and as a result workers are often flown in for weeks at a time. The provision of accommodation by the undertaking and here the sustainability matters pertains to the quality of living standards in these accommodations, including access to water and sanitation.

S1/S2: Privacy

When working on mine sites and living in provided accommodation the employee has little control over his/her privacy. This sustainability matter therefore includes how the undertaking is ensuring the workers right to privacy, both from a physical perspective and a digital perspective.

S3: Infrastructure. Including adequate housing, adequate food, water and sanitation and power.

Mining and coal operations are interlinked with the location and communities in which these take place. This affects the employment and economic performance in the area, as well as potentially exposing the local community hazardous substances if operations are not handled with the proper care. Due to impact on the local communities, this sustainability matter includes, but is not limited to; the living infrastructures of the local communities; its economic impacts; the communities' access to adequate food, the operations land-related impacts, their impact on families, children, and community as a whole; smell, light, noise, and vibration pollution; and their access to water and sanitation.

S3: Impacts on land rights

Mining and coal are land-intensive sectors, whose impacts can materialize when land is acquired to develop a project, but also when environmental pollution, ongoing deforestation, access restrictions among others, further impede the capacity of indigenous and local communities to access, cultivate lands or benefit from forests. Those have the potential to infringe on communities' right to livelihood.

S3: Security-related impacts

Mining and coal operations can be located in or near areas of active conflict or could be a source of local conflict. They therefore can have an impact on the security and potential conflicts in the area.

There has also been a history of sex-work in and around mining operations and the mining industry therefore has a high risk of sexual exploitation of women and children in the communities where it operates. This sustainability matter therefore also includes the risks of sexual violence and human trafficking in the affected community.

S3: Freedom of expression and freedom of assembly

Due to the presence of mining and coal operations in countries where the enforcement of human rights may be low, there is a higher risk for violations of the civil and political rights among the undertaking's employees and local communities. This sustainability matter includes, but is not limited to, freedom of expression and freedom of assembly.

S3: Impacts on human rights and environmental defenders

Research shows that the mining industry is one of the most dangerous sectors for Human Rights and environmental defenders with several hundred attacks globally in addition to continuous threats and abuse. Ensuring the rights and protection of Human Rights Defenders is therefore of the utmost importance in the mining industry.

S3: Particular rights of indigenous communities. Including free, prior and informed consent; self-determination; and cultural rights

Mining and coal operations often take place in locations that are in close proximity to indigenous communities, and consequently have an impact on these communities due to its economic influence and the environmental consequences from these operations. Examples can be found in disputes and conflicts over land ownerships and absence of good faith in consultation; and also with the potential influx of workers from other areas can result in discrimination toward indigenous peoples regarding access to jobs and opportunities that can further undermine social cohesion, well-being and safety or the increased exposure of indigenous women to risks of prostitution, forced labour or violence. This sustainability matter would therefore cover if there has been a free, prior, and informed consent of indigenous people and the practice the undertaking has in place to ensure his. It also includes whether land-use rights, the right to self-determination as well as cultural right has been respected and indigenous communities' access to water is guaranteed.

S4: Access to quality information

Undertakings in the mining and coal sector are often at the start of most value chains as they produce substances that often become a part of everyday products. It is therefore important that they provide detailed and accurate information that covers many sustainability matters where much information is relevant not only for end users, but for the communities and civil societies they are a part of. Thus, this topic covers access to information regarding the organization and the operations, but also privacy and data protection for employees and customers. In addition to this, freedom of expression is also covered in this topic as is it essential for this to be guaranteed for transparent communication and information to be disclosed.

ESRS 2: Sustainability governance, management and reporting

In recent years sustainability management and sustainability reporting has become an increasing great part of corporate reporting and undertaking's everyday management. Subsequently that leads to a greater need for internal resources and governance structures to be in place to help manage the increasing requirements. The undertaking's governance structure and strategy to maintain this aspect of their operations is important as it is the underlying factor that will lead to achieving their sustainability goals.

G1: Corporate culture (Code of conduct and ethics)

Ensuring that undertakings have a code of conduct and ethics that outlines the how the undertaking and its employees are expected to conduct themselves give security and guidance in their everyday work. Mining and coal operations are often in locations all over the world, including areas considered to be Conflict-Affected and High-Risk Areas (CAHRAs) in which the enforcement of Human Rights is less likely to take place. It is therefore important that undertakings within the mining and coal sector have a clearly stated code of conduct to ensure that the rights of employees and members of local communities are protected by the organization with no regard to the location of the operations.

G1: Corruption and bribery

Due to the nature of mining operations, along with other extractive industries, the mining and coal sector has a high risk for corruption and bribery events as their value chains are complex and are often set in Conflict-Affected and High-Risk Areas (CAHRAs). As a result Human Rights, as well as compliance to the legislative and procedural requirements in mining operations, is often neglected. This may lead to an undertaking taking advantage of the uncertainty in their favour, which consequently damages the environment and has a negative impact on the well-being of employees and local communities. This sustainability matter does not only include the efforts carried by an organization to guarantee that these actions are not happening within it, but the tools also used to prevent this from occurring. It also covers

the consequences of a breach of policy, potential reprimands for breeches and the whistle blowing systems and protections the undertaking has in place.

G1: Political engagement and lobbying activities

Mining and coal operations, along with other extractive industries, are often important sectors within a countries industry and therefore have wide ranging impacts on the communities and countries they operate within. This leads to them often engaging in politics and lobbying activities to ensure that legislation and political decisions are in their favour. To ensure transparency and create legitimacy the undertaking shall disclose its political stances and lobbying activities, especially within the area of sustainability management and reporting.

When operating in CAHRAs, where the democratic safeguards are not necessarily as strong, political engagement and lobbying activities can lead to legislation that are more in the interest of the undertaking rather than interest of that community. Only when both the interests of the undertaking and the interests of the local community are upheld can there be an effective and value creating operation.

G1: Management of relationships (including payment practices)

Many sustainability-related issues are complex and thus require collaboration between different stakeholders. Managing relationships with governments, business partners, suppliers and stakeholders is therefore of vital importance for undertakings in the mining industry.

Stakeholder engagement can prevent, monitor, and help mitigate any environmental or social risks. For this reason, stakeholder engagement shall be integrated into project planning and regular business operations through sharing of decision-making power with interested and affected parties and it shall be driven by stakeholders through ongoing consultation and follow-through. As per OECD guidelines on stakeholder engagement in the extractive industries, stakeholder engagement strategies shall prioritise engagement with most severely affected stakeholders, rather than most influential stakeholders. This includes, but is not limited to, artisanal and small-scale miners and civil society organizations.

Undertakings must also ensure that all taxes, fees, and royalties related to mineral extraction, trade and export from conflict-affected and high-risk areas are paid to governments and, in accordance with the undertaking's position in the supply chain, we commit to disclose such payments in accordance with the principles set forth under the Extractive Industry Transparency Initiative (EITI). When disclosing data in relation to a specific project, undertakings can also provide more granular information on the government revenues collected from each individual extractive project.

Clarity and transparency regarding payments to governments from undertakings in the mining industry sector will contribute to a more efficient management of public funds and corruption. Such payments may be the origin of revenue for local communities and other regions, which may have increased demand for public spending. Project-level payment data is therefore relevant information to local communities, governments, and investors alike. It enables undertakings to demonstrate the economic contribution they are making in relation to specific projects, and the communities they affect. Where applicable, undertakings shall disclose the profit-sharing system in place with the local community.

G1: Cyber security

The managing of operational sites within the mining, quarrying and coal sector is important for geopolitical reasons as well as sustainability reasons. The consequences of data breaches and other types of cyber security risks could potentially lead to major incidents and spills that could have detrimental impacts on the local environment and community.

Appendix E: NACE Codes Mining, Quarrying and Coal

B.05.10	Mining of hard coal
B.05.20	Mining of lignite
B.07.10	Mining of iron ores
B.07.21	Mining of uranium and thorium ores
B.07.29	Mining of other non-ferrous metal ores
B.08.11	Quarrying of ornamental and building stone, limestone, gypsum, chalk and slate
B.08.12	Operation of gravel and sand pits
B.08.91	Mining of chemical and fertiliser minerals
B.08.92	Extraction of peat
B.08.93	Extraction of salt
B.08.99	Other mining and quarrying n.e.c.
B.09.90	Support activities for other mining and quarrying
C.19.10	Manufacture of coke oven products