

CONTEXT AND CAVEAT

Mining, Quarrying and Coal

The Exposure Draft ESRS Mining, Quarrying and Coal was discussed during 2024 by the EFRAG SR TEG and EFRAG SRB and was last discussed by the EFRAG SRB in its 16 October 2024 meeting but was not approved given that further work had to be undertaken. The 16 October 2024 document constitutes a stabilised version at that date as a summarised technical outcome of the work performed. The Exposure Draft was not finalised in the context of the EC Omnibus Proposals in which sector specific standards were no longer included. The draft unapproved Exposure Draft is for information purposes only under the understanding that it does not represent an official position of EFRAG.

This paper provides the technical advice from EFRAG SR TEG to the EFRAG SRB, following EFRAG SR TEG's public discussion. The paper does not represent the official views of EFRAG or any individual member of the EFRAG SRB. This paper is made available to enable the public to follow the EFRAG's due process. Tentative decisions are reported in EFRAG Update. EFRAG positions as approved by the EFRAG SRB are published as comment letters, discussion or position papers or in any other form considered appropriate in the circumstances.

Exposure Draft ESRS *Mining, Quarrying and Coal*

**As approved by EFRAG SR TEG on 3 July 2024
and amended following EFRAG SRB meetings of June - October 2024**

content that overlaps with OG highlighted in grey

[draft is still subject to editorial review]

The [Draft] ESRS Mining, Quarrying and Coal set out in paragraphs 1 - 105 and the following Appendices, that have the same authority as the main body of the Exposure Draft.

- Appendix A: Defined Terms;
- Appendix B: Application Requirements;
- Appendix C: Application Requirements supporting the assessment of materiality of the information;
- Appendix D: List of datapoints that emanate from EU Law;
- Appendix E: NACE codes: Mining, Quarrying and Coal;

This [Draft] ESRS Mining, Quarrying and Coal is also accompanied by non-binding Appendix F: Description of sustainability matters.

This draft also uses terms defined in sector-agnostic ESRS and shall be read in the context of its objective. The terms defined in sector-agnostic ESRS are marked with ***italic bold, blue font***.

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Objective and structure of this [draft] standard

1. Consistent with ESRS 1 paragraph 10, the objective of this [draft] ESRS is to specify disclosure and application requirements that enable users of sustainability statements to understand material **impacts, risks** and **opportunities**, that are likely to be material for all undertakings in a specific sector and that are not covered, or not sufficiently covered, by topical standards. This [draft] ESRS covers the **sustainability matters** that are most relevant to the Mining, Quarrying and Coal sector.
2. This [draft] ESRS specifies disclosure and application requirements as follows:
 - (a) additional sector-specific datapoints and/or application requirements related to sector-agnostic disclosure requirements. Additional datapoints are located in the main body of this standard and additional Application Requirements are located in Appendix B. In both cases, they are identified by having in their title the requirement of sector-agnostic ESRS to which they relate (e.g. *ESRS2.IRO2.MQC*).
 - (b) sector-specific Disclosure Requirements are presented in the main body of this [draft] standard and are identified by a progressive numbering (MQC 1, MQC 2, etc.). Their respective Application Requirements are presented in Appendix B.
3. The requirements classified in this [draft] standard as **policies, actions** and **targets** are subject to the materiality provisions of paragraph 33 of ESRS 1. Those classified as **metrics** are subject to the materiality provisions of paragraph 34 of ESRS 1. When assessing additional sector-specific datapoints in this [draft] standard referred to in paragraph 2 (a) above for condition of paragraph 34 (b) of ESRS 1, the undertaking shall refer to the objective of the relevant Disclosure Requirement in the sector agnostic standards.
- 3.1. The requirements of this standard shall be applied in conjunction with SEC1 that specifies specifying general sector requirements and disclosure which are applicable to all sectors.

Scope of application

4. An undertaking is within the scope of application of this [draft] ESRS when *Mining, Quarrying and Coal* is a significant sector according to paragraph 40 (b) and/or (c) of ESRS 2 General Disclosures, using the criteria set in AR 13 of ESRS 2 to define a significant sector, as well as according to paragraph ## of [Draft] SEC 1.
5. [draft] ESRS SEC 1 *Sector classification* defines the aggregation of activities (NACE codes) into sectors for the purposes of applying sector ESRS. The NACE codes that pertain to the Mining, Quarrying and Coal sector are listed in Appendix D to this [draft] ESRS, consistent with SEC 1.
6. The *Mining, Quarrying and Coal* sector is composed of mining, quarrying, coal and service undertakings, according to the definitions in Appendix A of this [draft] ESRS.
7. The Mining sub-sector includes the extraction of metals and **minerals** which can be achieved by different methods, such as underground or surface mining, well operation, seabed mining, salars' exploitation, geothermal mining and others. Extraction of critical metals and rare earth elements can be included in this sub-sector, provided that these remain within the specification of NACE codes for the sub-sector. Supplementary activities, such as crushing, grinding, washing, drying or sintering are also included. The activities in this sub-sector are classified under NACE division 07 Mining of metal ores (core NACE codes: 07.10, 07.21, 07.29, **08.93, 08.91, 20.15 and activities in the NACE code 08.99 that involved underground mining, for example, natural graphite, magnesite etc).**

8. The *Quarrying sub-sector* includes activities such as quarrying, mining of non-metal and industrial minerals, 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, peat digging and preparation of peat to improve quality or facilitate transport or storage. It also includes extraction of salt, as well as mining and quarrying of various minerals and materials, as well as supplementary activities such as dredging of alluvial deposits, rock crushing or the use of salt marshes. The activities in this sub-sector are classified under NACE division 08 Other mining and quarrying (core NACE codes: 08.11, 08.12, 08.92 and activities of 08.99 other than described in the mining subsector).
9. The *Coal sub-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. This sub-sector includes undertakings that mine coal and manufacture coal products, whether it concerns underground or surface mining, thermal or metallurgical coal. This sub-sector also includes manufacturing of coke oven products. The activities in this sub-sector are classified under NACE division 05 Mining of coal and lignite (core NACE codes: 05.10, 05.20 and 19.10).
10. The *Services sub-sector* includes providing support services on a fee or contract basis to the three sub-sectors mentioned above. Such services can consist of exploration services like prospecting, draining and pumping services or test drilling and test hole boring. The activities in this sub-sector are classified under NACE 09.90.
11. The reference to NACE activities above is made to demonstrate key activities in the sector. It is noted that undertakings belonging to this sector may carry out a range of additional activities, such as site preparation (F.43.12), landfilling or permanent storage (E.38.32), Manufacture of fertilisers and nitrogen compounds (C.20.15), retail sale of fertilisers (G.47.76).

Sustainability matters that are most relevant to the sector

12. When performing its materiality assessment, the undertaking shall consider the full list of sustainability matters in ESRS 1, paragraph AR 16.
13. In addition, the undertaking shall consider the following list of sustainability matters that are considered most relevant to the sector. The list comprises selected matters from ESRS 1, paragraph AR 16, complemented with additional sector-specific matters. Appendix F provides an explanation of these matters and how they manifest in the sector.

| Topic (standard) | Sub-topic and sub-sub topics | Sector specifications | Applicable sub-sector ¹ |
|--------------------|--|--|------------------------------------|
| Industrial hazards | | Industrial hazards | M Q C S |
| Closure of assets | | Closure of assets | M Q C |
| Tailings | | | M Q C |
| E1 Climate change | Climate change adaptation Climate change mitigation Energy | Anticipated financial effects GHG Intensity | M Q C S |
| | | Scope 1 disaggregated by sources Locked-in emissions in coal reserves Methane emissions, flaring and venting | C |
| E2 Pollution | Pollution of air Pollution of water | Environmental Management Systems (EMS) | M Q C S |

¹ Sub-sector applicability referring to mining (M), quarrying (Q), coal (C) and service (S) sub-sectors

| | | | |
|---------------------------------|--|---|---------|
| | Pollution of soil Pollution of living organisms and food resources Substances of concern Substances of very high concern | Environmental monitoring Spills Tailings Acid drainage Dust | |
| E3 Water and marine resources | Water Marine resources Water consumption Water withdrawals Water discharges Water discharges in the oceans Extraction and use of marine resources | Water-intense mining operations | M Q C S |
| E4 Biodiversity and Ecosystems | Direct impact drivers on biodiversity loss Impacts on the state of species Impacts on the extent and conditions of ecosystems Impacts and dependencies on ecosystem services | Land degradation and soil sealing | M Q C |
| E5 Circular economy | Resource inflows, including resource use Resource outflows related to products and services Waste | - | |
| S1 Own workforce | Working conditions Secure employment Working time Adequate wages Freedom of association, the existence of works councils and the information, consultation and participation rights of workers Collective bargaining, including rate of workers covered by and collective agreements Work-life balance Health and safety Equal treatment and opportunities for all Gender equality and equal pay for work of equal value Training and skills development Measures against violence and harassment in the workplace Diversity Other work-related rights Child labour Forced labour Adequate housing Water and sanitation Privacy | Operating round-the-clock or in remote locations Work stoppages | M Q C S |
| S2 – Workers in the value chain | Working conditions Secure employment Working time Adequate wages Freedom of association, the existence of works councils and | | M Q C S |

| | | | |
|-------------------------|---|--|---------|
| | <p>the information, consultation and participation rights of workers Collective bargaining, including rate of workers covered by and collective agreements Work-life balance Health and safety</p> <p>Equal treatment and opportunities for all Gender equality and equal pay for work of equal value Diversity</p> <p>Other work-related rights Child labour Forced labour Adequate housing Water and sanitation Privacy</p> | | |
| S3 Affected communities | <p>Communities' economic, social and cultural rights Adequate housing Adequate food Water and sanitation Land-related impacts Security-related impacts</p> <p>Communities' civil and political rights Freedom of expression Freedom of assembly Impacts on human rights defenders</p> <p>Rights of Indigenous peoples Free, prior and informed consent Self-determination Cultural rights</p> | Rights of indigenous peoples | M Q C |
| G1 Business conduct | Business conduct Management of relationships with suppliers including payment practices | Lobbying Local suppliers spending | M Q C S |
| | | Transparency on contracts and licenses | M Q C |
| | | State aid and competition | M Q C |
| | | Beneficial ownership | M Q C |
| | | Mineral purchases from states | M Q C |

14. For each of the **sustainability matters** in the table above that have been assessed to be material, the undertaking shall disclose its **policies, actions** and **targets**, following:
- the applicable requirements in this [draft] ESRS in conjunction with those in the topical standards;
 - the **minimum disclosure requirements** set forth at paragraphs 60 to 81 of ESRS 2;
 - paragraph 62 of ESRS 2.

Disclosure requirements

ESRS 2 General disclosures

ESRS 2.SBM1.MQC – Activity indicators

15. The undertaking shall provide a breakdown of its net revenue for the reporting period (both in monetary amount and as a percentage of its total revenue) into the following NACE-code activities²:
- (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
 - (f) **Total derived from other than mentioned above NACE codes**

Cross-topical sector disclosures

MQC 1. Mapping of business sites

16. **The undertaking shall disclose a list of its significant *business sites* connected to material sustainability matters**

17. The objective of this Disclosure Requirement is to enable an understanding of which significant business sites are connected with specific material sustainability matters.

Metrics

18. For each significant business site that is material to:

- (a) biodiversity, the undertaking shall specify whether the site is located in or near the protected areas or a key biodiversity area. If so, the undertaking shall specify the impacts to the affected habitats and ecosystems and describe biodiversity management and adaptive management activities in place;
- (b) water and marine resources, the undertaking shall specify whether the site is located in areas of high-water stress.
- (c) affected communities and/or own workforce, the undertaking shall specify:
 - i. whether the material impacts on the local community are connected to:
 - 1. indigenous peoples;
 - 2. land rights;
 - 3. adequate housing, adequate food, water and sanitation;
 - 4. pollution;
 - 5. hazardous waste storage or disposal;
 - 6. voluntary or involuntary resettlements that have been taking place or are ongoing near the site, subject to legal restrictions on the disclosure;
 - ii. whether the site is located in or near the conflict-affected or high-risk areas; and

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](#).

- iii. whether the site has implemented works councils, occupational health and safety committees and/or other worker representation bodies to deal with impacts.

19.1 For each of the significant business sites listed according to the paragraphs above, the undertaking shall include:

- (a) basic description, including name and a description of the activities and main characteristics of each site;
- (b) location (NUTS region in the EU, country + region outside EU);
- (c) type of control: financial or operational control;
- (d) status of site (active; undergoing closure; closed and rehabilitated; or closed and not rehabilitated);
- (e) the existence of tailing impoundments;

MQC 2. Mineral reserves

19. The undertaking shall disclose its proven mineral reserves.

20. The objective of this Disclosure Requirement is to enable an understanding of an undertaking's **proven reserves**.

Metrics

21. The undertaking shall disclose the percentage of **proven mineral reserves** that are:

- (a) in or **near protected areas** and **key biodiversity areas**; and
- (b) in areas of **high-water stress**.
- (c) in countries with high risks of corruption, money laundering and financing of terrorism;
- (d) in or **near** conflict-affected or high-risk areas;
- (e) in or **near** the indigenous land;

22. The undertaking shall disclose for each line item of the paragraph 22 the corresponding countries where it has **proven reserves**.

23. The undertaking shall, where relevant, provide a breakdown of calculations by mineral or business unit where minerals or business units include, for example: coal, aluminium, copper, zinc, iron ore, platinum group metals, or diamonds.

MQC 3. Industrial hazards

24. The undertaking shall disclose information related to industrial hazards.

25. The objective of this Disclosure Requirement is to enable an understanding of the material impacts, risks and opportunities related to industrial hazards connected to the undertaking's operations, as well as how the undertaking manages them.

Policies, actions and targets

26. When reporting its **policies, actions** and **targets** related to industrial hazards according to ESRs E2-1, E2-2 and E2-3, the undertaking shall specify whether and how they address:

- (a) industrial hazard prevention and emergency preparedness and response;
- (b) managing impacts from past accidents for which environmental remediation may still be on-going, including any actions that are planned for short, mid and long-term, if applicable.

27. When reporting its **policies, actions** and **targets** related to **occupational health services** according to ESRs S1-1, S1-4 and S1-5, the undertaking shall describe whether and how they contribute to the minimisation of **impacts and risks** and identification and elimination of hazards; and how it ensures the quality of health services and facilitates workers' access to them.

ESRS E2 -Metrics

28. The undertaking shall disclose the total number of significant spills that occurred during the reporting period and volume by substance, as well as how it defines significant spill.

ESRS S1 -Metrics

29. The undertaking shall disclose the following information if its workforce is exposed to respectively chemical, physical or ergonomic hazards:
- (a) for chemical hazards, a list of the **substances of very high concern (SVHCs)**, as identified in E2–5 that workers are exposed to in its operations;
 - (b) a list of **key hazards, that include** physical or ergonomic hazards that affect its workforce and whether these are included in the undertaking's health and safety management system;
30. In addition to reporting on significant spills, the undertaking shall disclose the number of overall significant incidents that occurred in the reporting period, including those incidents that involve hazardous materials and waste management.
31. The undertaking shall disclose the following **metrics** related to health and safety matters as a result of being exposed to chemicals (including to crystalline silica, hydrogen sulphide, hydrocarbons exposure, harmful or carcinogenic hydrocarbon gases and vapours); and provide a breakdown between **employees** and **non-employee** in **own workforce** for (a) and (b) below:
- (a) the number of work-related fatalities;
 - (b) the number of **work-related injuries**; and
 - (c) the number of cases of **recordable work-related ill health** for the undertaking's **employees**.
32. The undertaking shall disclose the average number of hours of **training** per worker received by its own workforce on health, safety and emergency preparedness, with respect to occupational risks or hazards to which its own workforce is reasonably likely to be exposed. Such information shall be broken down by **employees** and **non-employees**.

MQC 4. Closure of assets

33. **The undertaking shall disclose information related to the closure of assets.**
34. The objective of this Disclosure Requirement is to enable an understanding of the material impacts, risks and opportunities related to closure of assets in the undertaking's operations, as well as how the undertaking manages them and the financial effects associated.

Policies, actions and targets

35. When reporting its **policies, actions** and **targets** related to the closure of assets, the undertaking shall specify whether and how they address the adoption of closure plans (including decommission, rehabilitation or restoration and post-closure monitoring of sites) for its **business sites**
36. In addition, when reporting its **policies, actions** and **targets** related to the closure of assets according to ESRS S1/3-1, S1/3-4 and S1/3-5, the undertaking shall specify how its **policies, actions** and **targets** address impacts on **own workforce** and **affected communities** related to the closure, rehabilitation and/or restoration plans.

Metrics

37. The undertaking shall list the material **business sites** for which there is existing or foreseen **site rehabilitation and/or restoration plan**.
38. Where applicable, the undertaking shall disclose whether it developed the post-closure plans in consultation with **affected communities** and **employees**.

39. With regards to liabilities for closure and rehabilitation, the undertaking shall disclose per each material business site.
- (a) monetary amount recognized in the financial statements, including:
 - i. undiscounted monetary value of (a) split by time horizon;
 - ii. discount rate used to calculate (a);
 - (b) contingent liabilities that do not meet the accounting recognition criteria at the reporting date; it expects to incur for each business site, including environmental and social post-closure monitoring and aftercare and
 - (c) whether the business site has been sold to a third party
40. If the relevant information is already disclosed in the financial statements, the undertaking may incorporate by reference to the relevant paragraph in the financial statements.

MQC 5. Tailings management, facilities and impoundments

41. **The undertaking shall disclose information on its tailings management practices, tailings facilities and tailing impoundments.**
42. The objective of this Disclosure Requirement is enabling an understanding of the undertaking's management of its **tailings** facilities, the hazards nature of its tailings impoundments, and its treatment of tailings.

Policies, actions and targets

43. When reporting according to ESRS E5-1 to E5-3, the undertaking shall specify whether and how its **policies**, **actions** and **targets** cover practices for management of tailings facilities, including:
- (a) managing impacts from tailing facilities (e.g., on biodiversity), including the closure and post-closure;
 - (b) preventing catastrophic failures of tailing facilities;
44. When addressing the reporting requirement in ESRS 2 paragraph 65(d), and unless exceptions in the risk assessment and monitoring intervals that are covered by applicable law (particularly Articles 11 and 13 of Directive 2006/21/EC; 3 Articles 2 and 11 or Directive 2004/35/CE; and Article 2 of Commission Implementing Decision 2020/248/EU), the undertaking shall:
- (a) disclose whether and how it complies with specific industry standards on the treatment of management of tailings;
 - (b) if the undertaking does not follow any generally accepted standard or code of practice, it shall explain why.

Metrics

45. The undertaking shall disclose, for each **tailings** facility that falls within the scope of this disclosure:
- (a) a description of the tailing's facility, its name, location, and ownership;
 - (b) a classification by hazard potential for each listed **tailings** impoundments according to the following classification:
 - i. high hazard potential;
 - ii. significant hazard potential;
 - iii. low hazard potential.
 - (c) types of **tailings** disposal methods used by the undertaking;
 - (d) whether the facility is active, inactive, or closed;
 - (e) the date and main findings of the most recent risk assessment;

- (f) the dates of the most recent and next independent technical reviews as well as the main findings of the most recent technical review;
 - (g) the maximum permitted storage capacity.
46. The undertaking shall disclose the percentage of its tailings impoundment that have been assessed by a third party.
47. The undertaking shall provide information about its waste-management process in case of deep-sea, in particular it shall:
- (a) disclose if it generates waste from tailings in deep-sea areas (Deep-Sea Tailings Disposal (DSTD)); if so, it shall:
 - i. disclose the total amount of waste from tailings and of mineral processing waste generated in deep-sea areas during the reporting period;
 - ii. 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;
48. The undertaking shall disclose the following information on the financial effects related to catastrophic failures:
- (a) available financial resources (including from insurance arrangements) to face potential future events and monetary amounts at risk;
 - (b) provisions recognised in the financial statements for past events;
 - (c) other expected costs, if applicable;
 - (d) description of how the amounts above have been estimated, including the key assumptions and inputs.

Environmental disclosures

ESRS E1 – MQC Climate change

Policies, actions and targets

49. When reporting its policies, actions and targets related to climate change mitigation according to ESRS E1-2, E1-3, E1-4 and E1-6, the undertaking shall specify whether and how they address:
- (a) implementation of Leak Detection & Repair (LDAR) programmes;
 - (b) addressing the methane leakages found as a result of the regular monitoring surveys;
 - (c) discontinuing venting and flaring at drainage stations;
 - (d) monitoring and addressing post-mining and post-closure methane releases.
 - (e) GHG emissions from Scope 3 category 11 “Use of sold products”

Metrics related to E1-6 Gross Scope 1,2,3 and Total GHG emissions

50. In addition to the information provided following ESRS E1-6, the undertaking shall disclose a breakdown:
- (a) total **Scope 1 GHG emissions** into total CO₂ and methane emissions;
 - (b) **Scope 1 GHG emissions** by type of source, namely:
 - i. stationary combustion, excluding **flaring**
 - ii. **flaring**
 - iii. **venting**

iv. **fugitive emissions** and

v. other

51. The undertaking shall disclose its **GHG emissions** intensity per unit of production during the reporting period, including the specific denominators chosen to calculate it.
52. In addition to the information provided following ESRS E1-6, with regards to its methane emissions, the undertaking shall disclose:
- (a) the geographical location (country) of any significant **flaring** or **venting** emission;
 - (b) the efficiency of combustion.
53. In addition to the information provided following ESRS E1-5 Energy consumption and mix, the undertaking shall disclose energy intensity per unit of production.

Metrics related to E1-9 Anticipated financial effects from material physical and transition risks and potential climate-related opportunities

54. The undertaking shall disclose how it expects the management of climate change-related **risks** and **opportunities** to affect the medium and long-term financial position, performance and development. Limited to plans approved by the relevant governance bodies or delegated management, this shall include:
- (a) anticipated changes in investments (monetary amount) from the current levels for development of **mineral proven reserves**;
 - (b) anticipated changes in investments (monetary amount) from the current levels for development of low-carbon products and services or adaptation solutions
 - (c) potential write-off situations that do not meet the accounting recognition criteria at the balance sheet date; and
 - (d) anticipated early closure of existing assets and consequent effects on useful life of the existing assets.
55. If the relevant information is already disclosed in the financial statements, the undertaking may incorporate by reference to the relevant paragraph in the financial statements.

ESRS E2 – MQC Pollution

Policies, actions and targets

56. When reporting its **policies**, **actions** and **targets** related to the pollution, the undertaking shall specify whether and how they address:
- (a) inspecting and maintaining critical structures (e.g. mining slopes, **tailings** dams and ponds);
 - (b) monitoring the quality of the environment around its **business sites**;
 - (c) identifying and implementing Best Available Techniques (BAT), as required by Directive 2010/75/EU, as amended by Directive 2024/1785/EU (especially Articles 13 to 15), and in accordance with the indications provided in ESRS E2 (AR 25);
 - (d) prevention and control of:
 - i. spills of chemical substances in **soil** and water;
 - ii. **tailings** from mining;
 - iii. noise pollution, dust and releases of heavy metals to air, water and soil through dust.

Metrics

57. The undertaking shall disclose the percentage of **business sites** that have an environmental management (or monitoring) plan (EMP) in operation.
58. The undertaking shall indicate the percentage of **business sites** in which the **acid drainage** is:

- (a) predicted to occur or has been found to occur;
- (b) has not been actively mitigated; and
- (c) is not under treatment or remediation.

ESRS E3 – MQC Water and marine resources

Policies, actions and targets

59. When reporting its **policies, actions** and **targets** related to the water and marine resources the undertaking shall specify whether and how they address:
- (a) management of water as a shared resource, particularly in high-water stress and where conflicts between different water uses may emerge;
 - (b) improving the quality of the water discharged.

MQC 6. Water and marine resources metrics

60. **The undertaking shall disclose its metrics related to water withdrawals and discharges, during the reporting period.**
61. The objective of this disclosure requirement is to enable an understanding of the **water withdrawals** and water **discharges**.

Metrics – withdrawals and discharges

62. The undertaking shall disclose the total volume of **water withdrawals** and **water discharges**, in cubic meters (m3), disaggregated into:
- (a) surface water;
 - (b) groundwater;
 - (c) other water.
63. With regards to the **water withdrawals** disclosed according to paragraph 64 points (a), (b) and (c), the undertaking shall disclose the share (percentage) of water withdrawn from the **areas of high-water stress**.
64. The undertaking shall disclose the number of non-compliances with respect to local regulatory or discharge limits and indicate exceeded parameters.

Metrics – impacts on local water conditions

65. The undertaking shall disclose in **which river basin district its** operations significantly impact hydrological conditions (e.g. surface water flow, groundwater levels, etc) and what measures are put in place to prevent and mitigate the impacts.

ESRS E4 – MQC Biodiversity and ecosystems

Policies, actions and targets

66. When reporting its **policies, actions and targets** related to the biodiversity and ecosystems, the undertaking shall specify whether and how they address:
- (a) phasing-out of existing operations and/or stopping operational investments in or **near key biodiversity areas**;
 - (b) minimising biodiversity and ecosystem impacts from current and future operations in or near key biodiversity areas (including from tailings, open dams and impoundments);
 - (c) achieving no net loss or a net gain to biodiversity on **business sites**;
 - (d) managing direct land-use change from mining activity;
 - (e) managing percentage of impacted area rehabilitated or restored.

Metrics

67. The undertaking shall disclose significant impacts on **biodiversity** and **ecosystems** change for the reporting period:
- (a) average direct **land use change** related to its business sites in hectares (ha).
 - (b) percentage of land-use change area rehabilitated or restored during the reporting period and the percentage of land-use change area rehabilitated or restored in **protected areas** and **key biodiversity areas**;
 - (c) metrics on state of species.
68. The undertaking shall report **metrics** related to material impacts resulting from **biodiversity** and **ecosystem** change in accordance with ESRS E4-5, per each significant business site located in or **near** the **protected areas** and in **key biodiversity areas** that is listed according to the disclosure MQC 1. *Mapping of business sites*.

Social disclosures

ESRS S1 – MQC. Own workforce

Policies, actions and targets

69. When reporting its **policies, actions and targets** related to its **own workforce** according to ESRS S1-1, S1-4, S1-5, the undertaking shall specify whether and how they address:
- (a) 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;
 - (b) working time and **work-life balance** when operating round-the-clock or in remote locations.

MQC 7. Work stoppages

70. The undertaking shall disclose the number of work stoppages during the reporting period, including number of employees involved and their length.
71. The objective of this Disclosure Requirement is to enable an understanding of the extent of major work stoppages and their effects on the undertaking.

Policies, actions and targets

72. When reporting its **actions** according to ESRS S1-4, the undertaking shall specify whether and how taken or agreed actions resolve the major work stoppages.

Metrics

73. The undertaking shall disclose following **metrics** related to major work stoppages during the reporting period and for each of them:
- (a) the number of employees involved; and,
 - (b) the length in days of the stoppage.

ESRS S2 – MQC. Workers in the value chain

Policies, actions and targets

74. When reporting its **policies, actions and targets** related to **value chain workers**³ health and safety according to ESRS S2-1, S2-4, S2-5, the undertaking shall specify whether and how they address the applicability of its own health and safety management system to value

³ ESRS S1 *Own Workforce* includes employees and non-employees (individual contractors supplying labour to the undertaking, and people provided by undertakings primarily engaged in 'employment activities' (NACE Code N78). Workers not in scope of *Own Workforce* are considered workers in the value chain (and are defined as individuals performing work in the value chain of the undertaking, regardless of the existence or nature of any contractual relationship with the undertaking).

chain workers and whether and how the undertaking monitors the health and safety metrics for the value chain workers whilst working on site.

ESRS S3 – MQC. Affected communities

Policies, actions and targets

75. When reporting its **policies**, **actions** and **targets** related to the engagement with **indigenous peoples**, including through the tailings facility lifecycle according to ESRS S3-1, S3-4, S3-5, the undertaking shall specify whether and how they address:
- (a) engagement with **indigenous peoples** in building knowledge and in decisions that may have a bearing on public safety;
 - (b) land and resources rights:
 - i. recognition of legitimate tenure rights holders when acquiring, leasing or making other arrangements to use, or restrict the use of land, including involuntary resettlement;
 - ii. process for establishing compensation for loss of assets other assistance to improve or restore standards of living or livelihoods;
 - iii. use of the land after the closure of the business site;
 - (c) respecting and protecting **environmental** and **human rights defenders**;
76. The undertaking shall disclose the definition of affected communities applied when preparing its sustainability statement.

Metrics

77. The undertaking shall disclose the following **metrics** in relation to seeking **free, prior and informed consent (FPIC)**:
- (a) whether it has been involved during the reporting period in a process of seeking FPIC from **indigenous peoples** for any of its activities.
 - (b) if the undertaking has been involved in such processes, the following information for each business sites in question:
 - i. whether the process has been mutually accepted by the undertaking and the affected **indigenous peoples**; and
 - ii. whether an agreement has been reached, and if so, if the agreement is publicly available.
78. The undertaking shall provide the number of **confirmed incidents** during the reporting period related to **environmental** and **human rights defenders** and identify those that relate to vulnerable groups, including indigenous people.

MQC 8. Security personnel

79. The undertaking shall disclose the percentage of security personnel within **own workforce** that has received **training** about the undertaking's human rights **policies**.
80. The objective of this Disclosure Requirement is to enable an understanding of the extent to which the undertaking's security personnel are trained on the undertaking's human rights **policies** and an understanding of how these are respected when engaging with **affected communities**.

Metrics

81. The undertaking shall disclose:
- (a) the percentage of security personnel that has received **training** in the undertaking's human rights **policies**;

- (b) where applicable, the number of the identified **incidents** during reporting period of violations of human rights of affected communities, including **indigenous people** directly linked to its security personnel and a description of the type of violation.

MQC 9. Engagement with affected communities and grievance mechanisms

82. The undertaking shall disclose **metrics** regarding engagement with **affected communities** and the performance of its grievance mechanisms.

83. The objective of this Disclosure Requirement is to enable an understanding of the engagement with **affected communities** and grievance mechanisms on impacts connected to the undertaking.

Metrics

84. The undertaking shall disclose the number of sites with grievance mechanisms or similar conflict resolution procedures for the business sites listed in MQC 1, *Mapping of business sites*. If the undertaking does not operate local grievance mechanisms at the business site level as these are managed at group or company level, it may fulfil this requirement by stating this to be the case. It may disclose its plans to develop grievance mechanisms at business site level, if applicable.

85. The undertaking shall disclose the percentage of business sites that have implemented development programs and/or the following:

(a) affected community engagement.

(b) impact assessments, including:

i. social impact assessments, including gender impact assessments, based on participatory processes;

ii. environmental impact assessments and ongoing monitoring;

86. In addition, for (b) above, the undertaking shall disclose whether the results of environmental and social impact assessments have been made public.

Governance disclosures

ESRS G1 - MQC. Business conduct

Policies, actions and targets

87. When reporting its **policies, actions and targets** related to the management of relationships with suppliers and payment practices according to ESRS G1-2 and G1-6, the undertaking shall specify whether and how they take into account the procurement spending on local suppliers.

88. When disclosing according to paragraph 90, the undertaking shall disclose its definition of local suppliers, in case where it deviates from ESRS definition.

89. When reporting its **policies, actions and targets** related to the management of relationships with suppliers according to ESRS G1-2, the undertaking shall disclose⁴:

(a) whether it has carried out independent third-party audits of supply chain due diligence;

(b) its practices for responsible sourcing.

Metrics

90. When reporting according to ESRS G1-5 paragraph 29, the undertaking shall disclose the amount it spent (as a reporting entity) during the reporting period on **lobbying activities** with

⁴ This requirement is consistent with Article 7 of Regulation (EU) 2017/821.

contents covering its material **impacts**, **risks** and **opportunities** identified in its **materiality** assessment.

MQC 11. Transparency about contracts and licenses

91. The undertaking shall provide information about the transparency with respect to contracts and licenses with governments setting the terms and conditions for the exploitation of **minerals and coal resources**.
92. The objective of this Disclosure Requirement is to provide an understanding of the transparency of the undertaking about its contracts concluded and licences received.

Metrics

93. For any material **contract** or **license**, the undertaking shall disclose:
- (a) whether these are made publicly available and where they can be found;
 - (b) for those **contracts** or **licenses** not publicly available, the reason for this and if applicable, **actions** taken to publish in the future as well as the timetable to do so.

MQC 12. State-aid and competition

94. The undertaking shall provide information concerning possible anti-competitive behaviour, the abuse of dominance, or the receipt of state aid during the reporting period.
95. The objective of this Disclosure Requirement is to enable an understanding of possible anti-competitive behaviour of the undertaking during the reporting period, as well as any **state aid** received.

Metrics

96. The disclosure 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) the total amount received with respect to **state aid** or financial assistance received from any government on a country-by-country basis.

MQC 13. Beneficial ownership

97. The undertaking shall provide information about its beneficial ownership and how it identifies the beneficial owners of business partners, including joint ventures and suppliers.
98. The objective of this Disclosure Requirement is to provide transparency about the undertakings beneficial owner(s) and to provide an understanding of its **policy** regarding the beneficial owners of its business partners and how these are identified.

Policies, actions and targets

99. When reporting its **policies**, **actions** and **targets** related to the prevention and detection of corruption and bribery according to ESRS G1-1 and G1-3, the undertaking shall specify whether and how they cover guidelines and screening processes regarding politically exposed persons ('PEPs') and beneficial owners of business partners, including joint ventures and suppliers.

Metrics

100. The undertaking shall disclose a list of its parent undertaking's beneficial owner(s) (as defined in article 3(6) of Directive (EU) 2015/849).

MQC 14. Minerals or coal purchased from states

101. The undertaking shall provide information about minerals or coal purchased from states or a third party appointed on the behalf of such states during the reporting period.
102. The objective of this disclosure requirement is to enable transparency about minerals or coal purchases from **the state** and to provide insights amounts paid to the state under such transactions.

Metrics

103. For minerals or coal 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 from the state;

Appendix A: Defined terms

This appendix is an integral part of this Exposure Draft and has the same authority as the other parts of this Exposure Draft.

| | |
|--|---|
| Acid drainage (including acid rock drainage and acid mine drainage) | <p>Highly acidic, polluted water containing free sulphuric acid and dissolved metals sulphate salts resulting from the oxidation of contained sulphide minerals or additives to the process.</p> <p>Acid drainage can result from a variety of natural sources and anthropogenic activities.</p> <p>In the case of acid rock drainage (ARD), this oxidation process occurs naturally and is complemented by reactions of the base minerals in the rock, which are exposed to air and water.</p> <p>For acid mine drainage (AMD), this is a common form of water pollution in areas where mining took place. It is the result of open-pit underground extraction operations (in particular mining and coal mining) and extractive waste facilities, causing an acceleration of the acid draining process because such activities increase the exposure of sulphide minerals to air, water, and microorganisms.</p> |
| Conflict-affected and high-risk areas | <p>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.</p> |
| Environmental defenders | <p>The term "environmental defenders" refers to individuals and groups who, in their personal or professional capacity and in a peaceful manner, strive to protect and promote human rights relating to the environment, including water, air, land, flora and fauna. Land and environmental rights are interlinked and are often inseparable. As a result, the two broad categories of defenders advocating for the environment and for land rights are often characterized as "land and environmental rights defenders", "environmental rights defenders", or just "environmental activists".</p> |
| Flaring | <p>Flaring means the controlled combustion of coal mine methane for the purposes of reducing the global warming potential of methane and minimizing mine hazards associated with methane.</p> |
| Human rights defender | <p>The term "human rights defenders" refers to individuals, groups and organs of society that promote and protect universally recognised human rights and fundamental freedoms. Human rights defenders seek the promotion and protection of civil and political rights as well as the promotion, protection and realisation of economic, social and cultural rights. Human rights defenders also promote and protect the rights of members of groups such as indigenous communities. The definition does not include those individuals or groups who commit or propagate violence.</p> |
| Infrastructure | <p>Facilities built primarily to provide a public service or good rather than a commercial purpose, and from which an organization does not seek to gain direct economic benefit.</p> |
| Migrant worker | <p>A person who is to be engaged, is engaged or has been engaged in a remunerated activity in a state of which they are not nationals.</p> |
| Mineral probable reserves | <p>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.</p> |

| | |
|--|---|
| Mineral proven reserves | Mineral 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. |
| Normal operation (or normal operating conditions) | Regularly oscillating activity phases that support continued operation within safe upper and lower operating limits. It is also the condition or phase of process operation between the startup phase and shutdown phase, other than start-up (e.g., bringing an activity, an equipment item or a tank into or out of service), shutdown (i.e., definitive cessation of operations), or emergency operations (e.g., leaks, malfunctions, momentary stoppages). |
| Occupational health services | Services entrusted with essentially preventive functions, and responsible for advising the employer, the workers, and their representatives in the undertaking, on the requirements for establishing and maintaining a safe and healthy work environment, which will facilitate optimal physical and mental health in relation to work and the adaptation of work to the capabilities of workers in the light of their state of physical and mental health |
| Other water | Surface water that is not fresh water, and water from other sources. |
| Surface water | Surface water, including rainwater, water from wetlands, rivers and lakes. Water that is naturally occurring water on the Earth's surface in ice sheets, ice caps, glaciers, icebergs, bogs, ponds, lakes, rivers and streams, and has a low concentration of dissolved solids. |
| 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. |
| Tailings and tailings facilities | <p>Tailings are a by-product of mining, consisting of fine-grained waste solids or slurries that remain after the treatment of metals and minerals recoverable (left over rock or soil) have been extracted by separation processes (e.g. crushing, grinding, size-sorting, flotation and other physico-chemical techniques) to remove the valuable minerals from the less valuable rock.</p> <p>Tailings facilities are part of a business site and encompass the whole set of structures required for the handling of tailings including the tailings storage facility (used to contain tailings produced by mines, such as decant structures and spillways, open pits, dry stacking, lakes or underground storages), tailings dams (embankments and impoundment structures, ponds designed to enable the tailings to settle and to retain tailings and process water), delivery pipelines, etc. Tailings facilities store large amounts of mining waste.</p> |

Appendix B: Application Requirements

This Appendix is an integral part of the proposed [draft] ESRS Mining, Quarrying and Coal and has the same authority as the other parts of the Standard.

AR 1. This sector standard introduce two cross-cutting sustainability matters which play a role in the undertaking's materiality assessment:

- (a) The mining, quarrying and coal activities are highly prone to incidents and accidents with disastrous impacts on environmental resources (extreme contamination of air, water and soil), surrounding communities and infrastructures (e.g., damage to economic activities and food resources), workers (e.g., injuries, ill health, fatalities), as well as undertaking's assets, leading to critical financial repercussions. Some examples of industrial hazards include ground or strata failure, fires or explosions, inundation or inrush of any substance (including from tailings dam failures), leaks of poisonous gases, spills of hazardous chemicals or slurry. Specifically, underground mining can generate dust explosions, inundation, mining corridor collapses or others. Open pit mining can cause landslides, water inbursts, machinery failures and others
- (b) closure of assets, which refer to ceasing of the operations, whenever site-specific extractive operations such as those in oil and gas are subject to closure due to finite resources and/or economic viability. At the end-of-life of an operation, the expectation is that the site will be restored to pre-development ecological functionality and setting or at least stabilized to prevent persistent environmental and social impact associated with geomorphological changes, increased contamination, and deteriorated safety conditions. Decommissioning planning, including financial allocation, is critical to ensure detrimental effects to environmental and social values are fully addressed and mitigated. As such, corporate financial disclosure for decommissioning is essential to demonstrate public accountability for businesses in the extractives sector. The term asset in this definition does not relate to resources that would meet the financial accounting definition of asset.
- (c) tailings management is unarguably the most substantial and riskiest issue in the industry due to the large amounts of processing metals and chemicals (e.g., cyanide) involved that may be released and the proportions of the areas covered by the facilities and, hence, the disastrous consequences on nature (e.g., surface and ground water) and human health (e.g., local communities) that can stem from tailings facilities collapses and failure.

AR 2. Whenever a cross-cutting sustainability matter is identified, the likelihood of occurrence for number of other sustainability matters is increasing, as illustrated in the table below. Upon the conclusion of materiality of cross-cutting sustainability matters, the undertaking shall evaluate the connected sustainability matters.

| Industrial hazards | Closure of assets | Tailings |
|--|--|--|
| Methane Pollution of air Pollution of water Pollution of soil Pollution of living organisms and food resources Substances of concern Substances of very high concern Direct impact drivers on biodiversity loss Impacts on the state of species Impacts on the extent and conditions of ecosystems Impacts and dependencies on ecosystem services Waste | Methane Pollution of air Pollution of water Pollution of soil (A) Water discharges in water bodies (B) Water discharges in the oceans (A) Habitat degradation and intensity of pressure on marine resources (B) Waste (A) Secure employment Social dialogue and collective bargaining Freedom of association, the existence of work councils and the information, consultation | Energy Methane Pollution of air Pollution of water Pollution of soil Pollution of living organisms and food resources |

| | | |
|---|--|--|
| Secure employment for own workforce and workers in the value chain Health and safety for own workforce and workers in the value chain Social dialogue and collective bargaining Training and skills development for own workforce and workers in the value chain Measures against violence and harassment in the workplace Communities' economic, social and cultural rights | and participation rights of workers Health and safety (A) Communities' economic, social and cultural rights (A) Communities' civil and political rights | |
|---|--|--|

Application Requirements related to ESRS 2 General disclosures

ESRS 2 GOV-4

AR 3. If the undertaking carries out activities concerned by the undermentioned supplements or regulations, it may also disclose a mapping of the information provided in its sustainability statement to the relevant supplements or regulations:

- (a) areas specified by the Conflict Minerals Regulation⁵.
- (b) OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas: Supplement on Tin, Tantalum and Tungsten; Supplement on Gold of the bespoke OECD Due Diligence Guidance⁶

AR 4. The undertaking may disclose procurement practices, as well as environmental factors in its mapping. This may be presented in a table in a similar form to the table below.

| Core elements | Paragraphs in the sustainability statements |
|---|---|
| OECD Guidelines for Multinational Enterprises | |
| Establish strong company management system | |
| Identify and assess risk in the supply chain | |
| Design and implement a strategy to respond to identified risks | |
| Carry out independent third-party audit of supply chain due diligence at identified points in the supply chain. | |
| Report on supply chain due diligence | |

ESRS 2 SBM-3

AR 5. The undertaking may consider disclosing which impacts on **affected communities** are specific to vulnerable groups such as children, women, **migrant workers**, **indigenous peoples** or any other vulnerable group, as applicable.

⁵ [Regulation \(EU\) 2017/821 of the European Parliament and of the Council of 17 May 2017 laying down supply chain due diligence obligations for Union importers of tin, tantalum and tungsten, their ores, and gold originating from conflict-affected and high-risk areas](#)

⁶ [OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas](#)

AR 6. When the undertaking is conducting its materiality assessment of impacts, risks and opportunities in relation to **affected communities**, it shall consider how it addresses any risks related to free, prior, and informed consent from **indigenous peoples** in countries without regulation or processes in place.

AR 7. It may disclose whether, as part of its materiality assessment, it performs a risk assessment for new country entry before the subscription of a contract in a new country of operations.

AR 8. When conducting its materiality assessment on topics related to E2, E3 and E4, the undertaking may consider the first three phases of LEAP approach, also known as:

- (a) Phase 1. Locate where in the undertaking's own operations and along its upstream and downstream value chain the interface with nature takes place
- (b) Phase 2: evaluate the dependencies and impacts
- (c) Phase 3: assess the material risks and opportunities

AR 9. **The undertaking operating in the Coal subsector** shall disclose the resilience of its current **mineral proven reserves** and may disclose the resilience of its current **mineral probable reserves** using the price trajectories published by the International Energy Agency (IEA) in its World Energy Outlook (WEO)⁷ 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.

AR 10. The undertaking shall consider the above mentioned WEO scenarios as a normative reference, thus any updates to the WEO made year-on-year shall be considered updates to this guidance.

AR 11. The undertaking may summarise its findings in the following table format:

| Price case | Mineral proven reserves | | Mineral probable reserves | |
|----------------------------------|-------------------------|-----------|---------------------------|-----------|
| | Product A | Product B | Product A | Product B |
| Current Policies scenario (base) | [tonnes] | [tonnes] | [tonnes] | [tonnes] |
| New Policies scenario | [tonnes] | [tonnes] | [tonnes] | [tonnes] |
| Sustainable Development Scenario | [tonnes] | [tonnes] | [tonnes] | [tonnes] |

AR 12. The undertaking may disclose the resilience of its mineral proven reserves 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 may disclose 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;

⁷ [World Energy Outlook 2022 \(windows.net\)](#)

- (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 requirements related to cross-topic disclosures

MQC 1. Mapping of business sites

AR 14. The mapping of business sites concerned by this disclosure includes both those that are under the undertaking's financial control and those under operational control. The site may be significant for the undertaking in terms of revenue or material actual impacts, or material potential negative impacts. For example, site is may be significant for the undertaking if it meets one or both of the following criteria:

- (a) the site is among its major sites;
- (b) is the most impactful business sites of the undertaking connected with material actual impacts or material potential negative impacts on people and environment.

AR 15. For the purposes of this disclosure, the following are business sites:

- (a) mines and the surface area disturbed by a mining operation;
- (b) exploratory mining phase, not including sites where the undertaking only has a first right option to the subsequent possible exploratory activities, provided that the site is connected with material actual impacts or material potential negative impacts;
- (c) quarries;
- (d) tailings facilities.

Operational control

AR 16. The undertaking shall determine on the basis of the specific facts and circumstances which asset is under **operational control**. The following are examples of transactions where the undertaking has **operational control**:

- (a) The asset is operated by the company, whether for itself, or under a contractual obligation to other owners or participants in the asset (for example, in a joint venture or other such commercial arrangement); or
- (b) The asset is owned by a joint arrangement (or equivalent commercial arrangement), and operated by a partner, in respect of which the company can determine management and board level operational decisions of the joint venture.

AR 17. In relation to paragraph 63 of ESRS 1, operations and assets under "**operational control**" shall not be considered as part of the upstream or downstream value chain, but as part of own operations.

AR 18. The undertaking may consider disclosing the list of business sites and infrastructure in the following format:

| No. | Site name | Description of activities | Location | Type of control | Status of site | [...] |
|-----|---------------|---------------------------|---------------|-----------------|--------------------|-------|
| 1 | [site name 1] | [...] | [NUTS region] | Operational | Active | |
| 2 | [site name 2] | [...] | [country] | Financial | Undergoing closure | |

| | | | | | | |
|---|-----------------|-------|-------|-------|------------------------------|--|
| 3 | [site name 3] | [...] | [...] | [...] | Closed and rehabilitated | |
| 4 | [site name ...] | [...] | | | Closed and not rehabilitated | |

AR 19. Mines and surface areas disturbed by a mining operation may be classified as follows:

- (a) the surface area from which the metals and minerals or refuse or both have been removed;
- (b) the surface area covered by refuse, all lands disturbed by the construction or improvement of haulage ways, pipelines and pipeline corridors; and
- (c) any surface areas in which structures, equipment, materials, and any other elements used in the mining operation are situated;

MQC 2. Mineral reserves

AR 20. The undertaking may disclose the percentage and grade (in percentage metal content) of **mineral proven reserves**.

AR 21. The undertaking shall consider the Pan European Reserves and Resources Reporting Committee (PERC) Standard for Reporting of Exploration Results, Mineral Resources and Mineral Reserves (the 'PERC Reporting Standard') or 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 22. The undertaking may disclose mineral probable reserves, desegregated by mineral or business unit.

AR 23. With reference to paragraph 31 (a), the countries identified as high-risk are:

- (a) countries or jurisdictions identified in the Financial Action Task Force 'black list'; or
- (b) countries that have the lowest rankings in Transparency International Corruption Perception Index

AR 24. With reference to the reserves located in or conflict-affected or high-risk areas, referred to in paragraph 31(b):

- (a) Reserves shall be considered to be in or near a conflict-affected or high-risk area if they are located in the same country as an armed conflict;
- (b) If the undertaking can demonstrate that the armed 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;
- (c) If reserves are located in a country, region, or state adjacent to an armed 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.

AR 25. With reference to the reserves located in or **near** indigenous land, referred to in paragraph 31(c), indigenous lands are considered those occupied or otherwise used by **indigenous peoples**.

AR 26. With reference to the reserves in or **near** the **protected areas** and the **key biodiversity areas**, referred to in paragraph ## 37 (d), the undertaking may calculate the percentage of reserves in protected areas and key biodiversity areas by proportionality, this is, by computing of their proven reserves in a concession area and determining the percentage which overlaps with a key biodiversity area and allocating reserves based on that percentage. The undertaking may also clarify to what extent proven reserves are developed or undeveloped, given the potential differential impact risk between them.

AR 27. With reference to the reserves in areas at high water stress, referred to in paragraph ## 36 (e), the undertaking may calculate the % of reserves by proportionality, this is, by computing of their

proven reserves in a concession area and determining the percentage which overlaps with areas at high-water stress and allocating reserves based on that percentage.

AR 28. With reference to the reserves in areas at **high-water stress**, referred to in paragraph ## 36 (e), the undertaking may calculate the % of reserves by proportionality, this is, by computing of their proven reserves in a concession area and determining the percentage which overlaps with areas of **high-water stress** and allocating reserves based on that percentage.

MQC 3. Industrial hazards

AR 29. When disclosing information about its industrial hazards in accordance with this Disclosure Requirement, the undertaking shall follow the provisions in the Seveso-III-Directive (2012/18/EU)⁸, aiming at the prevention of major accidents involving dangerous substances.

AR 30. Considering the requirements in paragraph 29, the undertaking may consider following spills to be significant:

(d) liquid releases resulting in an unintentional fire or explosion

(e) spills included in the undertaking's financial statements, for example due to resulting liabilities,

(f) spills recorded as significant spills by the undertaking

AR 31. When reporting on its policies for emergency preparedness and response, the undertaking may additionally disclose on whether and how it accounts for the implementations steps of critical control management (CCM). CCM is a process established and used in high-hazard industries for managing and preventing the risk of material unwanted events (the most serious types of health and safety incidents, both historical and foreseeable, e.g., underground ignition of methane by lightning), which involves a systematic approach to ensuring that critical controls are in place and effective⁹

AR 32. For the purpose of this disclosure, emergency preparedness is understood as the planning for and readiness to respond effectively to industrial emergency situations that may affect offsite resources or communities, and to minimize the likelihood of accidents, loss of life, injuries, and damage to property, environment, health and social well-being.

AR 33. For the reporting of number of **significant spills**, the undertaking shall consider the provisions on pollutants in ESRS E2, paragraphs from AR 21 till AR 27, as well as the definitions of substances of concern and substances of very high concern defined in Annex II to the ESRS. Multiple pollutants can be involved in one incident.

AR 34. The undertaking may specify whether sexual harassment is considered among psychosocial factors.

AR 35. In relation with the health and safety management system, the undertaking may disclose whether it takes into consideration specific differences for female workers (for example, in the equipment provided, or whether **occupational health services** and facilities take into consideration specific health-related concerns, etc.). ESRS S1-1)

MQC 4. Closure of assets

Policies, actions and targets

AR 36. For the purpose of this disclosure, the undertaking shall consider a closure plan as a plan addressing the aspects of decommissioning, rehabilitation or restoration and long-term monitoring of the site-level pollution. Closure plans also address aspects related to landscaping and **biodiversity** rehabilitation or restoration. This latter approach is known as integrated closure planning. The undertaking may additionally disclose whether and how it accounts for the integrated closure planning approach.

⁸ [Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances.](#)

⁹ [Health and Safety Critical Control Management, 2015 \(ICMM\).](#)

AR 37. When disclosing its **policies**, **actions** and **targets**, the undertaking may disclose the following related to closure of **business sites**:

- (a) how it helps **employees** and **non-employee** workers manage the adverse impacts arising from the closure of its business site(s);
- (b) 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);
- (c) the collaborative efforts, projects and programs that are set up to manage the socio-economic impact of closure and restoration programs and disclose these;
- (d) how it engages with workers and other **stakeholders** in informing the closure plans, as well as notice periods regarding closure.

AR 38. The undertaking may disclose site-specific closure targets to track progressive closure.

AR 39. When disclosing material financial liabilities it expects to incur for closure and decommissioning of each site (including rehabilitation and restoration), according to paragraph 46, it can be noted that each **business site** can have the status of: active; idle-not rehabilitated; idle-rehabilitated; closed-not restored; closed-in process of restoration; closed-fully restored.

AR 40. When disclosing on the material financial liabilities according to paragraph 49, the undertaking shall also consider the costs necessary to address:

- (a) adverse impacts of closure of the business site on **own workers, non-employee workers** and their communities (Disclosure Requirement related to ESRS 2 SBM-3); and
- (b) the restoration of material impacts to biodiversity and ecosystems around the closed business site (Disclosure Requirement related to ESRS E4-2).

AR 41. The description of how an undertaking engages with local communities shall consider an explanation on how the land will be used after the closure of the business site.

AR 42. The operational life of business sites may last for several decades, therefore 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.

AR 43. When disclosing its processes to remediate negative impacts following 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).

AR 44. The undertaking may disclose whether, in relation to closure and post-closure, it has addressed potential access-barriers faced by **affected communities**, particularly by **vulnerable groups**, to reach the channels in place (e.g., understandable language, technological resources, accessible to children).

AR 45. Site restoration plans should address the following objectives:

- 1. the long-term stability and sustainability of the landforms, soils and hydrology of the site;
- 2. the partial or full repair of **ecosystem** capacity to provide habitats for biota and services for people;
- 3. the prevention of pollution of the surrounding environment.

AR 46. The undertaking may disclose if it uses any recognised standard as a basis for site rehabilitation or restoration plans on what concerns **biodiversity** impacts.

MQC 5. Tailings management, facilities and impoundments

AR 47. Additionally, undertakings that are in scope of this disclosure are those: (a) compliant with indications provided by relevant industry standards, as mentioned in paragraph 51(c), such as the Global Industry Standard on Tailings Management (GISTM) (e.g., size and volume) or equivalent; (b) and/or with tailing facilities where an annual risk assessment is not done at a minimum every three years or more, as per GISTM Principle 10.1; (c) and/or operating in the quarrying sub-sector, only if such undertakings generate tailings and/or if tailings are material to them.

AR 48. When disclosing in accordance with paragraph 51 the undertaking may disclose whether it follows any generally accepted good practices for safe management of tailings facilities and which standard or code of practice it uses. If the undertaking does not follow any generally standard or code of practice, it shall explain why.

Application Requirements related to environmental metrics

ESRS E1 – MQC Climate change

Policies, actions and targets

AR 49. When reporting the information required under Disclosure Requirement E1-4 on **targets** related to **climate change mitigation**, the undertaking may disclose the mandatory legislation the goals and targets are aligned with or contribute to.

AR 50. 'Leak detection and repair programme' or 'LDAR programme' means a programme dedicated to identify and detect sources of methane leaks and other unintentional methane emissions, and to repair or replace the relevant components.⁶ When reporting according to ESRS E1-2, E1-3 and E1-4, when a LDAR survey programme exists, the undertaking may provide a brief description of it including: the frequency of the monitoring; the different methane monitoring technologies, e.g. remote sensing techniques or estimation method.

Metrics

AR 51. When reporting according to ESRS E1-2, E1-3 and E1-4, when a LDAR programme exists, the undertaking may provide a brief description of the programme including: the frequency of the monitoring; the different methane monitoring technologies, e.g. remote sensing techniques or estimation method.

AR 52. When disclosing about its Leak Detection & Repair (LDAR) programme and the monitoring technologies, the undertaking shall consider the following examples:

- (a) estimation methods involving the use of pre-determined emission factors;
- (b) decline curves;
- (c) handheld instruments;
- (d) continuous Emission Monitoring Systems (CEMS) and predictive emission monitoring system (PEMS);
- (e) remote sensing techniques or aerial surveys.

AR 53. Source of methane can include:

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

AR 54. In relation to the application of best practice in coal methane emission management, companies may refer to the Best Practice Guidance from UNECE¹⁰.

AR 55. When disclosing information required in ESRS E1-1 paragraph 16 (d) on potential **locked-in GHG emissions** from the undertaking's assets and products, the undertakings with coal mining or peat operations shall consider the emissions potential of proven reserves of their coal and peat assets. This potential shall be calculated considering the recommendations of the World Resource Institute¹¹ and Global Peatlands Initiative¹².

AR 56. The undertaking may disclose also locked-in emissions of probable reserves.

AR 57. When disclosing its **Scope 1 GHG emissions** according to ESRS E1-6, the undertaking shall include **land use change** emissions. Land use change refers to a change in the use or management of land and seascapes by humans, which may lead to a change in land cover. It covers changes to terrestrial ecosystems, such as when forests are converted to enable mineral extraction and supporting infrastructure. Guidance on calculating land use change emissions can be found in the IPCC Good Practice Guidance for Land Use, Land-Use Change and Forestry and its 2019 updates.

AR 58. When disclosing its Scope 3 significant emissions according to ESRS E1-6, the undertaking shall consider Scope 3 categories that may be significant for the sub-sector it is active in:

| Scope 3 Category | Mining sub-sector relevance | Quarrying sub-sector relevance | Coal sub-sector relevance |
|---------------------------------|-----------------------------|--------------------------------|---------------------------|
| 3. Fuel & Energy related | X | X | X |
| 10. Processing of Sold Products | X | X | |
| 11. Use of sold products | | | X |
| 15. Investments | X | | X |

AR 59. When reporting according to ESRS E1-6, the **service undertaking** shall consider its **Scope 3 category 13** 'Leased assets', i.e. the emissions associated with the use of the assets they have leased to undertakings in the mining, coal and quarrying value chain.

AR 60. When disclosing its **Scope 3 category 11** 'Use of sold products emissions' according to ESRS E1-6, the undertaking shall base on the volumes of coal sold during the reporting period, instead of the coal produced (therefore, the quantities in stock or inventory shall not be considered).

AR 61. When preparing the GHG emissions intensity per unit of production according to paragraph 49 of this standard, the undertaking shall:

- choose the specific unit of production that applies to its activities (e.g. tonne of coal, aluminium, copper, zinc, iron ore, etc.);
- calculate the GHG intensity by the following formula:

$$GHG\ intensity = \frac{\text{total GHG emissions attributable to production (tCO}_2\text{eq)}}{\text{total production volume (tonnes)}};$$
- report the types of GHG emissions included in the intensity metrics (whether it is Scope 1, Scope 2, or Scope 3);
- briefly explain the methodology used for the calculation.

AR 62. Examples of denominators chosen for calculation of the GHG intensity metrics may include, but are not limited to:

- copper, lithium, nickel, cobalt, aluminium for undertakings in the mining sub-sector;
- peat, calcium carbonate, dolomite, salt for undertakings in the quarrying sub-sector;

¹⁰ [Best Practice Guidance for Effective Management of Coal Mine Methane at National Level: Monitoring, Reporting, Verification and Mitigation](#)

¹¹ [A recommended methodology for estimating and reporting the potential greenhouse gas emissions from fossil fuel reserves, World Resource Institute, 2016](#)

¹² [Handbook for assessment of greenhouse gas emissions from peatlands. Applications of direct and indirect methods by LIFE Peat Restore, Global Peatlands Initiative, 2022](#)

- (c) thermal coal, metallurgical coal, coke oven products for the undertakings in coal sub-sector.

AR 63. When reporting energy intensity metric, the intensity metric for heat and electrical energy shall be represented **by MWh /t of product**. For reporting purposes, electrical energy intensity shall be further partitioned into the source (or sources) of power generation (e.g., diesel, natural gas, hydro, wind, nuclear, etc.).

AR 64. When reporting according to E1-9, the undertaking shall consider among as a source of financial effects, the financial risks associated with a narrower access to finance as a consequence to investors and lenders adopting investment policies to limit or phase-out the exposure to fossil fuel.

ESRS E2 – MQC Pollution

AR 65. When disclosing information on its pollution-related policies, the undertaking may:

- (a) disclose if the policies related to pollution prevention and control apply to all its operating sites and disclose the name of the sites which are not covered by the general policy; and
- (b) include the description on whether and how it implements a certified and regularly audited Environmental Management System (EMS), according to a recognized international standard, covering all its operating sites; or
- (c) list the sites that are not certified and regularly audited according to a recognized international standard with respect to their pollution performance, despite having an environmental management (or monitoring) plan (EMP) in operation;
- (d) disclose whether its policies are related to remediating the effects of pollution from its operations on the environment (in particular: i. air pollution, e.g. particulate matter (PM10, PM2.5), SO₂ and CO; ii. water pollution, in particular leachate and acid drainage; iii. soil contamination, e.g. heavy metals (Pb, As, Hg, Zn, Cd, Cr, etc.) originating from mining tailings; iv. use and disposal of substances of concern or substances of very high concern (SVHCs), with particular attention to hazardous substances as defined in Article 3 of Regulation (EC) No 1272/2008).

AR 66. When reporting on how it identifies and implements Best Available Techniques, the undertaking shall consider the following BREF reference document: Best Available Techniques Reference Document for the Management of Waste from Extractive Industries (MWEI BREF).

AR 67. When providing information on EMPs according to paragraphs 73 and AR 62, the undertaking may specify if it:

- (a) uses a network of air quality monitoring stations near its business sites for key air quality parameters (e.g. PM10, NO_x, CO);
- (b) uses a network of water quality monitoring stations on water bodies near its business sites for key water quality parameters (e.g. flow volumes, turbidity, pH, heavy metals);
- (c) if it does regular campaigns to assess levels of soil pollution and ground water quality near its business sites, namely for heavy metal (arsenic, lead, cadmium, mercury) and cyanide contamination;
- (d) if it does regular noise monitoring campaigns from operations in particular when operating near human settlements.

AR 68. Leachate shall be understood as any liquid having percolated through a porous material and loaded with extracted solutes or suspended solids. In case of extractive waste, the percolation occurs through the deposited waste and the liquid is emitted from or contained within an extractive waste facility, including polluted drainage, which may adversely affect the environment if not appropriately treated. Leachate may not only refer to unwanted processes (e.g., leading to polluted drainage), but also be generated on purpose, e.g. for the recovery of metals.

ESRS E3 – MQC Water and marine resources

Policies, actions and targets

AR 69. When disclosing the information required in E3-1 on **policies** and E3-2 **targets** related to water and marine sources, the undertakings may include the following:

- (a) a description of how the organization interacts with water, including how and where water is withdrawn, consumed, and **discharged**, and the water-related impacts the organization has caused or contributed to, or that are directly linked to its operations, products, or services by its **business relationships** (e.g., impacts caused by runoff);
- (b) a description of the approach used to identify water-related impacts, including the scope of assessments, their timeframe, and any tools or methodologies used;
- (c) a description of how water-related impacts are addressed, including how the organization works with **stakeholders** to steward water as a shared resource, and how it engages with **suppliers** or customers with significant water-related impacts;
- (d) an explanation of the process for setting any water-related goals and targets that are part of the organization's approach to managing water and effluents, and how they relate to public policy and the local context of each **area of high-water stress**;
- (e) an overview of water use across the organization's **value chain**;
- (f) a list of specific catchments where the organization causes significant water-related impacts.

AR 70. When compiling the information about areas of high-water stress, the undertaking shall use publicly available and credible tools and methodologies for assessing water risk in an area.

MQC 6. Water and marine resources

Metrics

AR 71. When disclosing its water withdrawals and discharges according to paragraph 58, the undertaking may follow the table shown below:

| Water withdrawals | Total water withdrawn (m3) | % withdrawn from areas of high water stress | Total water discharged (m3) |
|-------------------|----------------------------|---|-----------------------------|
| Surface water | | | |
| Groundwater | | | |
| Other water | | | |

AR 72. When disclosing the indicators of **water discharge**, the undertaking may disclose the internal standards it may have established for the management of water discharge-related impacts. The undertaking may give a description of any minimum standards set for the quality of effluent **discharge**, and how these minimum standards were determined, including:

- (a) how standards for facilities operating in locations with no local discharge requirements were determined;
- (b) any internally developed water quality standards or guidelines;
- (c) any sector-specific standards considered;
- (d) whether the profile of the receiving waterbody was considered.

AR 73. When disclosing the number of non-compliance as mentioned in paragraph 64, an undertaking should be considered non-compliant when it exceeds the authorized limits.

AR 74. The term 'river basin district' refers to the concept and terminology from the Water Framework Directive. The term 'river basin district', which incorporates one or more river basins with their surface water as well as the groundwater, is the most similar concept to 'catchment' in EU regulation. It deviates from the 'catchment' definition in the sense that it is not strictly defined by hydrological considerations but includes aspects related to how the administration, planning and

policy are organized to address challenges of one or more river basins and their groundwater. A river basin district can encompass one or more catchments.

AR 75. When disclosing the indicator of water withdrawal, the undertaking may refer to the 'ICMM practical guide to catchment-based water management for the mining and metals industry' as a recommended source of methodological guidance for water accounting and reporting.

ESRS E4 – MQC Biodiversity and ecosystems

Policies, actions and targets

AR 76. When disclosing its **policies** implemented to manage its material impacts, **risks** and **opportunities** related to **biodiversity** and **ecosystems**, the undertakings may disclose how the undertaking applies the mitigation hierarchy and international **biodiversity** standards in its operational planning, from early concept through to decommissioning.

Metrics

AR 77. The undertaking shall consider progressive rehabilitation practices, when disclosing its restoration plan. Progressive rehabilitation occurs when restoration and rehabilitation of mining and quarrying sites is done continually and progressively, concurrent to mine and quarry extraction. Progressive rehabilitation reduces open areas within mines and quarries, reducing potential soil erosion and increasing confidence in the rehabilitation plan among stakeholders. In addition, it allocates the overall rehabilitation cost with annual provisions throughout the mine life of the quarry. It also provides a timely and positive visual impact, allowing stakeholders to see and anticipate future rehabilitation outcomes.

AR 78. When disclosing according to paragraph 68 (c), the undertaking may disclose, as a metric on state of species, the total number of IUCN Red list species and national conservation list species with habitats in areas affected by the operations of the undertaking, by level of extinction risk.

AR 79. When disclosing according to the sector agnostic Disclosure Requirement E4-5, the undertaking shall consider impacts deriving from both direct impact on land use; indirect impacts; as well as impacts from industrial hazards (e.g. spills, other risk events).

AR 80. 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).

AR 81. The undertaking may provide information about reserves that are located in **protected areas** or endangered species habitat, but present low risk to **biodiversity** or **ecosystem services**; the undertaking may provide similar information for reserves located in areas with no official designation of high biodiversity value but that present high biodiversity or ecosystem services risks.

AR 82. The undertaking may also disclose :

- (a) number of projects contributing to forestry maintenance, educational activities, research and development to reduce **biodiversity** impact and land use, conservation measures (planting trees);
- (b) development and sales of new products that conform with new regulations on biodiversity;
- (c) number of **incidents** (fines, suspension or rejection of permission or license, litigations) due to violation of laws and regulations related to biodiversity.

AR 83. Reserves are considered to be in areas of protected conservation status if they are located within:

- (a) International Union for Conservation of Nature (IUCN) Protected Areas (categories I-VI)
- (b) Ramsar Wetlands of International Importance
- (c) UNESCO World Heritage Sites
- (d) **Biosphere Reserves** recognized within the framework of UNESCO's Man and the Biosphere (MAB) Programme

(e) Natura 2000 sites

(f) Sites that meet the definition of the **protected area**.

(g) the areas that are listed in the World Database of Protected Areas (WDPA) and mapped on Protected Planet

AR 84. Reserves are considered to be in endangered species habitat if they are in or near areas where IUCN Red List of Threatened Species that are classified as Critically Endangered (CR) or Endangered (EN) are extant.

AR 85. A species is considered extant in an area if it is a resident, present during breeding or non-breeding season, or if it makes use of the area for passage.

AR 86. For the purposes of disclosure, "passage" is defined as all areas of land or water that a migratory species inhabits, stays in temporarily, crosses or overflies at any time on its normal migration route.

ESRS E5 – MQC Circular economy

AR 87. When disclosing information about its waste in accordance with Disclosure Requirement E5-5, for sector-specific disclosures on Mining, Quarrying and Coal waste refer to information it is already required to report under other existing national or Community legislation (e.g. Directive 2006/21¹³ for the undertaking within the scope of extractive industries)¹⁴.

Application Requirements related to social disclosures

ESRS S1 – MQC. Own workforce

AR 88. In relation to **work-life balance** information, round-the-clock working measures could relate to long or split shifts for continuous operations and multi-day assignments for remoted locations.

AR 89. When disclosing its **policies, actions** and **targets** on housing facilities and access to basic services, the undertaking may specify whether it takes into consideration the specific needs of female workers.

AR 90. When disclosing according to ESRS S1-13, the undertaking may disclose whether the **trainings** it provides to its **own workforce** include prevention against sexual harassment and **discrimination**.

AR 91. When disclosing according to the requirements of ESRS S1 Own workforce, the undertaking may refer to the table below for examples of policies, actions and targets:

| Social and human rights matters: | Non-exhaustive list of factors to consider in Materiality Assessment: | Examples of policies: | Examples of actions: | Examples of targets: |
|----------------------------------|---|--|--|--|
| Secure employment | % of posted workers in own workforce % of migrant workers in own workforce | Policies on the use of non-employee workers in the workforce; Policies on the use of migrant workers in the workforce | Reducing the percentage of non-employee workers in its own workforce; Ensuring that the migrant workers are engaged on equivalent terms and conditions to non-migrant workers | Reducing the percentage of non-employee workers in its own workforce; Ensuring that the migrant workers are engaged on equivalent terms and conditions to non-migrant workers |
| Working time | % of workers regularly working multi-day away-from-home assignments | Policies on advance notice of scheduling, multi-day away- | Increased percentage of workers with regular schedules | Increased percentage of workers with regular schedules |

¹⁴ [Directive 2006/21/EC of the European Parliament and of the Council of 15 March 2006 on the management of waste from extractive industries and amending Directive 2004/35/EC - Statement by the European Parliament, the Council and the Commission](#)

| | | | | |
|---|--|--|--|--|
| | % of workers regularly working evening shifts % of workers regularly working night shifts % of workers regularly working on Saturdays and/or Sundays | from-home assignments, and evening, night and weekend work | Increased advance notice of scheduling Reducing percentage of multi-day away-from-home assignments, and evening, night and weekend work | Increased advance notice of scheduling Reducing percentage of multi-day away-from-home assignments, and evening, night and weekend work |
| Adequate wages | Allowances for housing for away-from-home assignments | Policies for housing allowances | Increasing housing allowances | Adequate housing allowances |
| Freedom of association/collective bargaining including the rate of workers covered by collective agreements | % of posted workers in own workforce | % of workers affected by major work stoppages | Percentage of workers affected by major work stoppages | Percentage of workers affected by major work stoppages |

MQC 7. Work stoppages

AR 92. The information on the number of persons in **own workforce** involved in a major work stoppage, an absolute number of persons or FTE is to be used. A major work stoppage is defined as a work stoppage involving 100 or more **employees** and/ or **non-employee** workers in **own workforce**.

AR 93. The scope of this Disclosure Requirement includes work stoppages due to disputes between labour and management, including strikes and lockouts. The work stoppages may also arise due to community protests.

AR 94. The information required by paragraph 72(b)(iii) shall be the sum of the products of the number of persons in its **own workforce** (FTE) involved and the total duration (in workdays) of each major work stoppage. Where exact figures are not available, the undertaking may provide an estimate according to ESRS 1.

ESRS S3 – MQC. Affected communities

AR 95. The geographical definition of ‘affected’ can include the community surrounding operations, a region within a country, or a country. The undertaking may adopt an approach that is consistent with its definition of local, when disclosing the information related to ESRS S3 Affected communities.

Policies, actions and targets

AR 96. When disclosing its **policies, actions** and **targets** related to land acquisition and involuntary resettlement, the undertaking may disclose if it has considered or addressed potential negative impacts that are specific to women and children; health and livelihood.

AR 97. The undertaking may disclose the following information in relation to actions related to land and resources right:

- (a) lessons learned to prevent recurrence; and
- (b) its regular review process of the assessment and management of process safety and risks

AR 98. 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.

Taking action on material impacts, risks and opportunities

AR 99. In relation to its disclosure on the **policies, actions** and **targets** related to preventing attacks on **environmental** and **human rights defenders**, the undertaking may disclose whether it

adopts a zero-tolerance approach for attacks against **environmental** and **human rights defenders**, and not to sue for defamation or to participate in strategic lawsuits against public participation (SLAPP).

AR 100. The undertaking shall consider the impacts on **affected communities** that stem from the undertaking's impacts on **biodiversity** when disclosing the **actions** that are planned or underway to address negative impacts on these affected communities; and, where applicable, it shall consider the principles in the Nagoya Protocol and the Montreal Agreement¹⁵. The undertaking may refer to how the actions that are planned or underway are aligned to these frameworks.

AR 101. When disclosing the **policies** in relation to engagement with **environmental** and **human rights defenders**, the undertaking may take account of its processes for engaging with **environmental** and **human rights 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. The undertaking may disclose if it has any initiatives or projects underway to support the actions or causes human rights and environmental defenders strive for.

AR 102. The undertaking may disclose if it has any initiatives or projects underway to support the actions or causes human rights and environmental defenders strive for.

Metrics

AR 103. The Critical Raw Materials Regulation (Regulation (EU) 2024/1252) outlines specific criteria for the recognition of Strategic Projects, which are raw material projects that contribute to the EU's supply of strategic raw materials, as defined in Annex I of the Regulation.¹⁶

AR 104. When the undertaking has obtained recognition of a project within the EU as a Strategic Project as per the paragraph above, the aforementioned disclosure may be based on the requirements in the Critical Raw Materials Regulation, including Article 7.1(j) in relation to consultation with **indigenous peoples** and national law of the EU country concerned. Undertakings may also disclose on **FPIC**.

AR 105. For Strategic Projects outside the EU and/or projects that are outside the Critical Raw Materials Regulation's scope, undertakings follow the provision of paragraph 77.

AR 106. The definition to be used to identify a '**confirmed incident**' is in conformity with the definition provided in Annex 2 of the Delegated Regulation and only refers to incidents that have been found to be substantiated.

AR 107. When calculating the number of **confirmed incidents** in paragraph 110, the undertaking shall consider official sources such as policy reports or other reports issued by governmental organisations. The undertaking shall also consider information raised by legitimate representatives or credible proxies from **indigenous people**, as well as reports issued by local, national and international NGOs. The undertaking shall not consider unofficial sources e.g. social media, when preparing this disclosure.

AR 108. When disclosing the number of **confirmed incidents** broken down by vulnerable groups, the undertaking may disclose whether the threats and attacks identified are different depending on the particular group affected (e.g., sexual violence on female **environmental** and **human rights defenders**).

MQC 8. Security personnel

AR 109. Mining, quarrying and coal companies may operate in conflict zones or other high-risk areas where the use of security personnel and the training of security personnel in the undertaking's human rights **policies** may be more relevant.

¹⁵ Refers to the COP 15 Convention on Biological Diversity of December 2022, not yet ratified.

¹⁶ CRMR Article 7.1(j) provides the requirements related to indigenous peoples as it relates to the application process: 'a plan containing measures dedicated to a meaningful consultation of the affected indigenous peoples about the prevention and minimisation of the adverse impacts on indigenous rights and, where appropriate, fair compensation for those peoples, as well as measures to address the outcomes of the consultation.'

- AR 110. The undertaking shall consider the content of the **trainings** offered (e.g. differentiate between training related to security issues and **trainings** on human rights policies) and also if it addresses the protection of **vulnerable groups**, especially women, children and indigenous populations.
- AR 111. Human rights **training** for security personnel aims at ensuring human rights respect with regards to their interaction with **stakeholders** including local communities, ensuring a non-discriminatory approach to women and minorities, not exacerbating social conflict, how to collaborate with public and private security providers, processes relating to detention of persons, undue use of force which includes ensuring that force is used only when necessary. 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.
- AR 112. When describing the procedures and management of public or private security providers, the undertaking shall refer to **training** provided on its policies or international standards focused on safeguarding human rights as well as guidelines on the use of physical force and reporting procedures. It may also refer to screening and assessment processes, cost reimbursement and the use of company facilities.
- AR 113. The undertaking may describe the frequency of the **training** (whether it is provided once a year, every two years, as applicable).
- AR 114. The undertaking may disclose whether the undertaking has performed internal audits and/or has been audited or certified by an external party in relation to compliance of its security personnel with its own human rights **policies** when engaging with **affected communities**.
- AR 115. The undertaking may disclose information on its processes of tendering and contracting with security providers. It may also disclose whether compliance with the undertaking's human rights **policies** by the private security are part of the process.
- AR 116. The information required in paragraph 88 is only applicable for sites that use security personnel (this would also apply to quarries in non-EU countries that are controlled or owned by EU companies).

MQC 9. Engagement with affected communities and grievance mechanisms

- AR 117. In its disclosure prepared under ESRS S3-2, the undertaking shall consider the following aspects:
- (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 recognised 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.
- AR 118. If the undertaking has an operation site in or near the **indigenous peoples** lands as listed in MQC 1 Mapping of business sites 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 119. The undertaking may list the **vulnerable groups**, including any **indigenous peoples**, that it has identified within local communities and the approach to engaging with those **vulnerable groups**, including:
- (a) how it seeks to ensure meaningful engagement; and

- (b) how it seeks to ensure safe and equitable gender participations, namely how it seeks to ensure indigenous women can participate safely and equitably.

AR 120. The undertaking may describe any collective or individual rights that it has identified that are of particular concern for local communities (including **vulnerable groups**).

Metrics

AR 121. Social impact assessment includes the processes of analysing, monitoring and managing the intended and unintended social consequences, both positive and negative, of planned interventions (**policies**, programs, plans, projects) and any social change processes invoked by those interventions.

AR 122. Environmental impact assessment includes the processes of identifying, describing and assessing in an appropriate manner, in the light of each individual case, the direct and indirect significant effects of a project on the following factors: (a) population and human health; (b) **biodiversity**, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC; (c) land, soil, water, air and climate; (d) material assets, cultural heritage and the landscape; (e) the interaction between the factors referred to in points (a) to (d). The effects on these factors shall include the expected effects deriving from the vulnerability of the project to **risks** of major accidents and/or disasters that are relevant to the project concerned.

Application Requirements related to governance disclosures

G1 – MQC Business conduct

AR 123. When providing information about its policy the undertaking may include details on how suppliers are categorised. Such categorisation may be based on geographic location, such as proximity to the site.

MQC 12. State-aid and competition

AR 124. When determining the total of **state aid** or of financial assistance received from any government, the undertaking shall include the following:

- (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.

Appendix C: Application Requirements supporting the assessment of materiality of the information

This appendix is an integral part of this [draft] and has the same authority as the other parts of this Standard.

When determining according to paragraph 34 (b) of ESRS 1 whether a given disclosure requirement or a datapoint in this [draft] ESRS (see reference to number of paragraphs in the table below) is reported or omitted for a material matter, the undertaking shall consider the factors presented in this table:

| Disclosure Requirement | Factors to consider in information materiality assessment | Datapoint to include or omit (Paragraph) |
|--|--|--|
| MQC 2. Mineral reserves | Existence of <i>proven mineral reserves</i> | 21 - 23 |
| MQC 3. Industrial hazards | Actual or potential occurrence of accidental releases of hazardous substances from operations | 28 |
| | Health and safety incidents (i.e., fatalities, injuries, and ill-health cases) amongst its workforce | 31 |
| MQC 4. Closure of assets | Existence of ongoing or planned closure of assets / sites | 37 - 40 |
| | Absence of planning related to site rehabilitation | 37 |
| | Ongoing or anticipated decommissioning of facilities | 39 |
| MQC 5. Tailings management, facilities and impoundments | Existence of tailings facilities (including tailings in deep-sea areas), actual or potential catastrophic failures | 45 - 48 |
| ESRS E1-MQC Climate change | Presence of locked-in emissions | AR 55 –56 |
| | Methane emissions and GHG emissions related to them | 50 |
| | Actual or anticipated flaring or venting activities, actual and potential methane leakages | 49 |
| ESRS E2 – MQC Pollution | Presence of environmental management (or monitoring) plan (EMP) in operation | 57 |
| | Actual or potential acid drainage | 58 |
| MQC 6 – Water and marine resources metrics | Ongoing or anticipated activities with actual or potential impact on local water and land resources | 65 |
| ESRS E4 – MQC Biodiversity and ecosystems | Progressive rehabilitation practices Land-use change area rehabilitated or restore | 66 - 68 |
| MQC 7 – Work stoppages | Work stoppages involving more than 100 workers of the undertaking, that have taken place during the year. | 73(a), 73(b) |

| Disclosure Requirement | Factors to consider in information materiality assessment | Datapoint to include or omit (Paragraph) |
|--|--|--|
| ESRS S3 – OG Affected communities | Proximity of operations/sites to indigenous peoples, including tailings facilities | 75 |
| | Ongoing process of seeking FPIC from indigenous peoples and agreements reached | 77 |
| | Prevalence of attacks on environmental and human rights defenders and the number of incidents when engaging with environmental and human rights defenders | 78 |
| MQC 8 – Security personnel | Use of private, government security personnel to safeguard the undertaking's operations/site and consideration to be given to conflict-affected or high-risk areas Human rights' training performed on security personnel | 81(a) |
| | Cases of human rights' violations connected with the security personnel | 81(b) |
| | Incidents of violations of human rights of indigenous people directly linked to the undertaking's security personnel | 81(b) |
| MQC 9 – Engagement with affected communities and grievance mechanisms | Existence and implementation of grievance mechanisms and engagement activities with the affected communities at business site level | 84 |
| | Percentage of business sites that have been subject to environmental and social impact assessments | 85(b) |
| ESRS G1 – MQC Business conduct | Proximity of suppliers to the business site | 87 |
| | Participation in advocacy and lobbying and associated expenditures aiming to exert influence on government policies | 90 |
| MQC 11. Transparency about contracts and licenses | Presence of government contracts and licences that are subject to public consultation | 93 |
| MQC 12. State aid and competition | Ongoing activities in jurisdictions where instances of cartels, monopolistic practices, and related abuse of such positions have been documented | 96 (a) |
| | Legal actions relating to violations of antitrust and monopoly legislation. | 96 (b) |
| | Eligible to or recipient of state aid or of financial assistance | 96 (c) |
| MQC 13. Beneficial ownership | Identification of individuals that classify as politically exposed persons ('PEPs') | 99 |
| | Availability of the identity of the natural person who has a control ownership interest in - and/or can exercise control over a legal entity used by the business partners, including joint ventures and suppliers | 100 |

| Disclosure Requirement | Factors to consider in information materiality assessment | Datapoint to include or omit (Paragraph) |
|---|---|--|
| <i>MQC 14. Oil and gas purchased from states</i> | Ongoing transactions generating revenue directly for states or through third parties acting on behalf of states | 113 |

Appendix D: List of datapoints in accordance with EU law

This Appendix is an integral part of the [draft] ESRS *Mining, Quarrying and Coal* and has the same authority as the main body of the [draft] Exposure Draft.

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 | Pillar 3 reference |
|---------------------------------------|--|
| ESRS 2.SBM1.MQC – Activity indicators | Article 449a Capital Requirements Regulation – CRR – Template 1 : Banking book – Climate change transition risk: Credit quality of exposures by sector, emissions and residual maturity |
| MQC 1 Mapping of business sites | Article 449a CRR – Template 1 : Banking book – Climate change physical risk – Exposures subject to physical risk |
| ESRS 2.SBM1.MQC – Activity indicators | Article 449a CRR – Template 1 : Banking book – Climate change transition risk: Credit quality of exposures by sector, emissions and residual maturity |
| | Article 449a CRR – Template 3 – Banking book – Climate change transition risk – Alignment risks |

Appendix E: NACE codes

This Appendix set the list of NACE codes that are covered by this [draft] sector ESRS. All undertakings for which one or more of these NACE codes represent a significant sector according to paragraphs 40 (a) and (b) of ESRS 2 shall report according to this [draft] sector ESRS.

| | |
|---------|--|
| 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; mining of clays and kaolin |
| 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 |
| C.20.15 | Manufacture of fertilisers and nitrogen compounds |
| E.38.32 | Landfilling or permanent storage |
| F.43.12 | Site preparation |
| G.46.12 | Activities of agents involved in the wholesale of ores |
| G.47.76 | Retail sale of fertilisers |

Appendix E is an integral part of this Exposure Draft and has the same authority as other parts of the Exposure Draft ESRS *Mining, Quarrying and Coal*.

Appendix F: Description of sustainability matters

This Appendix complements the [draft] ESRS Mining, Quarrying and Coal and presents a non-binding description of the sustainability matters that are most relevant for undertakings in the Oil and Gas sector.

For the sustainability matters that are also listed in paragraph AR16 of ESRS 1, this Appendix provides a description of how such matters materialise in this specific sector.

Industrial hazards

The mining, quarrying and coal activities are highly prone to incidents and accidents with disastrous impacts on environmental resources (extreme contamination of air, water and soil), surrounding communities and infrastructures (e.g., damage to economic activities and food resources), workers (e.g., injuries, ill health, fatalities), as well as undertaking's assets, leading to critical financial repercussions. Some examples of industrial hazards include ground or strata failure, fires or explosions, inundation or inrush of any substance (including from tailings dam failures), leaks of poisonous gases, spills of hazardous chemicals or slurry. Specifically, underground mining can generate dust explosions, inundation, mining corridor collapses or others. Open pit mining can cause landslides, water inbursts, machinery failures and others. Such hazards may result in emissions of toxic gases and vapours, rockfalls, flooding and extreme temperatures. The establishment of a system and a culture of safety, including through emergency preparedness and control, may help undertakings to reduce the risk of such hazards.

Closure of assets

Site-specific extractive operations such as those in mining, quarrying and coal are subject to closure due to finite resources and/or economic viability. At the end-of-life of an operation, the expectation is that the site will be restored to pre-development ecological functionality and setting or at least stabilized to prevent persistent environmental and social impact associated with geomorphological changes, increased contamination, and deteriorated safety conditions. Decommissioning planning, including financial allocation, is critical to ensure detrimental effects to environmental and social values are fully addressed and mitigated. As such, corporate financial disclosure for decommissioning is essential to demonstrate public accountability for businesses in the extractives sector. The term asset in this definition does not relate to resources that would meet the financial accounting definition of asset.

Tailings

Tailings are a by-product of mining, consisting of fine-grained waste solids or slurries that remain after the treatment of metals and minerals recoverable (left over rock or soil) have been extracted by separation processes (e.g. crushing, grinding, size-sorting, flotation and other physico-chemical techniques) to remove the valuable minerals from the less valuable rock. The handling of tailings is done through tailings facilities, which include tailings storage facilities (used to contain tailings produced by mines, such as decant structures and spillways, open pits, dry stacking, lakes or underground storages), tailings dams (embankments and impoundment structures, ponds designed to enable the tailings to settle and to retain tailings and process water), delivery pipelines, etc. Tailings facilities store large amounts of mining waste, containing toxic substances that may spread out to the surroundings, causing chronic and acute negative impacts to the environment and human health. Therefore, the management of tailings (during operation, closure and post-closure), is fundamental and considered to be the long-term responsibility of mining, quarrying and coal companies.

E1: Climate change adaptation

The sector is exposed to a range of risk from the current and future climate variability. Those may include, for example, increasing cost of natural resources, extreme weather events causing damage to the infrastructure, water availability decrease, increased dust emissions. Moreover, the impacts of climate change can cause significant disruption in the supply chain of the industry also contributing to create more dangerous working conditions for employee due to extreme weather events. Thorough risk evaluation and assessment as well as working towards resilience across the whole value chain, including surrounding communities and infrastructure, are essential to manage risk and opportunities related to the matters of climate change adaptation.

E1: Climate change mitigation

Mining operations generate significant direct greenhouse gas (GHG) emissions, including CO₂ from fuel use during mining, ore processing, and smelting activities. The GHG intensity may increase with decreasing grades of deposits and increasing depth and scale of mining operations. It will also depend on the method used (open pit or underground mining, excavation type, depth of the mine), volumes of fugitive methane released, or the type of 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.

Coal operations generate significant amounts of CO₂ emissions and have the highest intensity per energy unit out of all fossil fuels. For coal operations the release of GHG emissions includes CO₂ from fuel use and methane released from coal beds during mining and post-mining activities. Mitigating climate change can include changes in the developing of activities to reduce emissions and the 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 operations are often energy-intensive. Currently, diesel is the most common source of energy consumption, especially for the usage of large mining equipment. The use of alternative sources such as liquefied or compressed natural gas, electricity or even hydrogen, is also possible (especially for smaller equipment) even if not immediately considered a more efficient alternative. A significant proportion of energy consumption in the sector is, anyway, accounted for by purchased electricity (which is often not coming from sustainable sources). 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. In order to be effective, decisions on the aspects related to alternative fuels should be adequately integrated in the design and business model of mining operations, especially considering the increasing demand expected in future years.

E1: Methane

Methane is one of the main greenhouse gases responsible for climate change. It is produced during coal formation and remains trapped in the coal deposits, being prone to release during activities related to coal mining. Underground coal mine operators use ventilation and degasification systems to remove methane from the mine and further handle it through venting, flaring, as well as other management methods. Surface mines can also face methane releases from coal deposits disturbed by blasting operations. Methane releases can occur in operational mines, as well unactive and abandoned mines. These emissions can be significantly reduced through the use of available technologies and dedicated leak detection and repair programs.

E2: Pollution of air

Mining and quarrying operations can give rise to various hazardous air pollutants from smelting and refining activities, and use of explosives to uncover the reserves, with quarrying making extensive use of dynamite to blast rock aiding the excavation. The use of explosives may result in emissions such as dust, vibrations, gaseous byproducts or flyrock. Coal operations are often associated with air emissions from drilling, refining to the transportation, waste management and active mine fires. Significant air pollutants in these three subsectors are sulphur oxides (SO_x), nitrogen oxides (NO_x), carbon monoxide (CO), particulate matter (PM), heavy metals (particularly lead, mercury, cadmium, and arsenic), persistent organic pollutants (POPs), volatile organic compounds (VOCs), as well as several types of dust particles. Exposed surfaces of extractive waste primarily result in dust and VOCs releases.

E2: Pollution of water

Mining (e.g., excavation), quarrying (e.g., nitro-glycerine spills) and coal (e.g., coal washing to remove sulphur, cooling drilling equipment, transporting coal in slurry pipelines) processing extensively use water, resulting in surface water and groundwater contamination through erosion and sedimentation (e.g., suspended solids generation), tailings leakage and exposure to highly sulphidic excavated waste rock (e.g., acid mine drainage). These types of water quality concerns may accelerate further acidification and contamination over time, increasing the leaching of heavy metals (arsenic, cobalt, copper, cadmium, lead, silver, and zinc), leading to impacts that persist for decades after closure. Deep-sea mining is another critical issue of concern causing pollution in water columns from excessive light, noise, wastewater discharges, and sediment plumes.

E2: Pollution of soil

Soil pollution is a critical issue stemming from mining, quarrying and coal activities, given that the resulting pollutants can be retained by soil for a long time and slowly be passed to other media (water, air). Site soils and soils in their proximity, including in post-mining locations, have great variability in their properties (e.g., physical structure degradation due to dust accumulation, significant imbalances of pH levels due to different explosives used, toxic elements versus nutritional content) as a consequence of the leaching of waste rock and tailings produced at all stages of operation (e.g., ore and metallurgical extraction, ore beneficiation). Tailings are usually highly acidic and sandy with low levels of nutrients and their depositing on the ground may lead to severe soil fertility and integrity issues or sedimentation of massive amounts of heavy metals on the topsoil.

E2: Substances of concern and substances of very high concern

Mining (including coal mining) and quarrying operations (e.g., blasting, separation of minerals from ores, creation of tunnels) widely use substances with high chemical hazards. These lead to chronic and devastating effects on the environment (e.g., high toxicity in marine ecosystems) and human health (e.g., respiratory infections, cardiac and neuromuscular effects) as they are dumped on the surface, spilled from sites or leached due to precipitations, and spread to surrounding areas. The most concerning substances in this sector include mercury (a recognized volatile, persistent heavy metal of global concern), cyanide (life-threatening, fast-acting poison), sulphuric acids (leading to chronic inflammation and irritation), explosive (releasing toxic gases such as nitric and nitrogen oxides, as well as carbon monoxides), silica dust (hazardous to lungs and carcinogenic), and polycyclic aromatic hydrocarbons (acute toxicity to birds and aquatic organisms).

E2: Pollution of living organisms and food resources

Mining, coal and quarrying operations (including through deep-sea mining resulting in sediment plumes, sea floor compaction, diminishing algae biomass through metal oxide deposition, etc.) may directly cause disturbances in the reproduction and growth of animals (e.g., benthic fauna), organisms and plants, up to the destruction of wildlife altogether (e.g., through sediment generation and). For instance, heavy metals concentrations in site surrounding can be absorbed by crops and soil organisms, hence bioaccumulating in plant fibres and inhibiting enzyme functions. Arsenic might pollute food resources, with high negative impacts on neurotoxicity arising after consumption. Acid mine drainage, for instance raises the risks of degrading the quality of water to the point of exterminating wildlife due to its persistent nature. An excess in the generation of sediments may suffocate watershed vegetation and organisms. Suspended solids deplete oxygen levels and light diffusion and raise temperatures.

E3: Water use, including water withdrawals and water consumption

Mining, quarrying and coal operations can impact both the availability and the quality of local water resources considering the substantial volumes of water required for the production process. Mining operations, depending on their geographical and geological location, must manage water consumption, flood risks, water quality and other issues. 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. 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.

E3: Water discharges in water bodies and in the oceans

Mining, quarrying and coal operations may discharge used water into water bodies or waterways. These discharges eventually can end up leading to a range of impacts described under pollution sustainability matters (chemical pollution, eutrophication of water bodies). This in return affects or poisons organisms living in the water, and it can cause negative effects on humans through fishing in these waters or tourism that depends on the existence of clean water bodies to attract customers. Recycling and cleaning processes of water discharges can allow to reuse much of the water used on a site, thereby decreasing operational dependency on an already scarce commodity. Clean water discharge will also avoid the risks for wildlife and human health or recreational activities.

E3: Habitat degradation and intensity of pressure on marine resources

Mining and coal activities can 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. Moreover, some undertakings are currently exploring deep-sea bed mining, which can be associated with a risks to the marine environment.

E4: Impacts on the extent and condition of ecosystems

The entire life cycle of *Mining, quarrying and coal* projects, namely, development, operation, closure and restoration of mine and quarries sites, can have direct, indirect, and cumulative impacts on biodiversity and condition of ecosystems, both in the short and long term. The development phase, in particular, typically requires large-scale infrastructure developments that have impacts on biodiversity, namely the alteration of landscapes, vegetation removal, and impacts to wildlife habitats. During the operation phase, pollution is a particularly significant risk to biodiversity and condition of ecosystems acid drainage is a particularly significant risk: it is highly acidic water, rich in heavy metals, formed when surface and shallow subsurface water encounter mining overburden. Acid drainage can have harmful effects on humans, animals, and plants. Similarly, tailings management will play an important role. *Quarries* are often operated close to processing facilities and require the removal of vegetation and topsoil and the blasting and crushing of underlying stone deposits. This 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 groundwater or surface water as well as the animals living in it.

Mining activities can have impacts on biodiversity beyond the mine site. These impacts can be more significant when mining occurs in or near ecologically sensitive areas. For example, mining activities can spread into ecological corridors and disrupt the functioning of an ecologically sensitive area. Inactive mine pits, underground workings, and hazardous waste can also cause biodiversity impacts beyond closure (see also topic 14.8 Closure and rehabilitation)

Biodiversity impacts from coal activities include contamination of air, soil, and water; deforestation; soil erosion; and sedimentation of waterways. Other impacts can include animal mortality or increased vulnerability to predators, habitat fragmentation and conversion, and the introduction of invasive species and pathogens.

E4: Direct impact drivers of biodiversity loss

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 encounters 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 operational sites 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.

Direct drivers of biodiversity loss influence biodiversity and ecosystem processes, leading to impacts such as degradation of ecosystems, habitat fragmentation, and animal mortality. Mining activities may contribute to the direct drivers of biodiversity loss through land and sea use change, for example, in the form of land clearance for mining, access routes, and waste management facilities; exploitation of natural resources by withdrawing and consuming water; through the introduction of invasive alien species; and pollution. Sources of air, water, and soil pollution can include:

E4: Impacts on the state of species

Mining, quarrying and coal operations can cause impacts which affect the continued existence of species not only because of indirect effects such as pollution but also because operational sites are located at or nearby areas where species have their natural habitat. The disappearance of one or more species can result in the disappearance of an entire ecosystem of species that depend on each other.

E4: Impacts and dependencies on ecosystem services

Mining, quarrying and coal operations can impact ecosystem services (the benefits to humans provided by the natural environment and healthy ecosystems). The disturbance of habitats by different kinds of pollution related to the operations, excavation activities in itself or deforestation prior to it affects the possibility of natural ecosystems to provide ecosystem services. Mining, quarrying and coal operations also can interact with human and social capital by disconnecting areas supplying ecosystem services from the people that rely on them.

Mining activities typically require large-scale developments that have impacts on biodiversity and ecosystem services. These impacts can limit the availability and accessibility of natural resources or degrade their quality. Impacts on biodiversity and ecosystem services may also affect the well-being and livelihoods of local communities and Indigenous Peoples (see also topic 14.10 Local communities and 14.11 Rights of Indigenous Peoples).

E5: Resources inflows, including resource use

Mining activities are highly reliant on the extraction of critical raw materials and rare earths, which are fundamental to the EU's welfare and economy as they represent the input to produce many goods that are massively consumed. The present and future demand for metals and non-metal materials is, hence, growing with the increase of the demand of consumer goods, and the need to secure supply of these materials (which is finite). Their recovery, however, can also cause severe disruption to ecosystems as well as environmental contamination.

E5: Waste

The mining activities generate large volumes of mineral processing wastes, including slags and tailings, some of which may be hazardous or chemically reactive. Impoundments for tailings can cover large areas of land. Mineral waste is often stored in-pit, using abandoned open pit surface mines. 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. Coal activities can include handling of solid rock and clay waste, process refuse, and liquid coal waste containing hazardous

substances like mercury, arsenic, and cadmium posing operational and regulatory challenges for coal operations undertakings.

S1/S2: Working time and work-life balance

Mining, quarrying and coal operations are typically operated in a manner that involves irregular working hours for a large portion of their own workforces. Mines and coal operations are frequently operated around-the-clock, including on weekends. Shift work longer than eight hours, and evening, night and weekend work are typical for many workers in this sector. Furthermore, mining and coal operations located far away from populated areas ("remote locations") often resort to arrangements whereby workers will rotate between long multi-day or multi-week periods on site and periods with time off off-site ("fly-in fly-out" arrangements). In such remote locations adequate housing, access to water and sanitation and health care are often material matters.

Research has demonstrated an association between extensive irregular working hours and time without family, recreation, and leisure and negative impacts on physical and psychological health and work-life balance. Extensive use of irregular working hours may make it difficult for undertakings to retain their workers and recruit new workers.

S1/S2: Health and safety

Mining, quarrying and coal operations may result in both strenuous and dangerous working conditions and are associated with a high degree of risk related to safety matters. Injuries may be caused by accidents with heavy equipment or explosives or collapse of mines or other facilities. Workers' health may be impaired by prolonged exposure to dust, heat, vibration, noise, ultraviolet light, heavy lifting and repetitive movements, and hazardous chemicals. This sector has higher than average rates of fatalities, injuries, lost workdays and occupational diseases. Worker injuries, illnesses, and fatalities can lead to regulatory penalties, negative publicity, low worker morale and productivity, and increased healthcare and compensation costs. This sustainability matter covers the undertaking's policies regarding health and safety, critical incident risk management, as well as workforce health, wellbeing, and safety

S1/S2: Adequate wages and secure employment

Many undertakings in the mining, coal and quarry sector make extensive use of non-employee workers, typically referred to as 'contractors' - that is, self-employed workers contracting directly with the undertaking or supplied by employment agencies. Many of these workers are utilized for extended periods of time for regular operations and perform work which is the same or similar to the work that employees do. However, these workers lack the employment security and, frequently, the wages and benefits that employees receive. Generally, non-employees may be exposed to higher risk of injury and health impairment and may have fewer rights to unemployment and early retirement benefits and access to retraining than employees when it comes to the closure of mine sites, which can be also related to unemployment problems for the local community.

Another factor contributing to the materiality of these matters is the extensive contracting-out of the operation of mining, quarrying and coal operations. Contracting-out rather than owner-operator arrangements are particularly frequent in the case of smaller owners ('junior miners'), who may have little or no experience in operating a mine. Contracting-out arrangements have relevance for the security of employment, since such arrangements typically are medium term (e.g. five years) and obligations to the contractors' workforce as a rule do not extend beyond the end of the contract.

These are also material issues in 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.

S1/S2: Freedom of association and collective bargaining

The mining, quarrying and coal sector in many countries has a higher rate of trade union representation and collective bargaining coverage than the economy-wide national average. However, freedom of association may be at risk, particularly in locations where these are not guaranteed by national legislation and/or where enforcement is weak. Many mining and coal operations are located in countries where the rule of law has broken down (10 of the 148 countries rated in the 2022 ITUC Rights Index), where labour rights are not guaranteed (34 countries) or where there are systematic violations of labour

rights (39 countries). The proportion of self-employed workers ('contractors') whose working conditions are determined by a collective bargaining agreement (the 'collective bargaining coverage rate') is typically lower than that of employees.

S1: Training and skills development

Mining, quarrying 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 risks that working in the mine entails. Health and safety-related training, including the proper use of equipment and handling of explosives and hazardous chemicals, is key to reduce the risk of accidents and occupational diseases. Some mining, coal and quarrying operations are placed in the middle or close to active conflict areas. They may also be the subject of controversy which leads to the necessity of security personnel. Thus, this sustainability matter also includes training of security personnel in human rights and humanitarian law.

S1: Measures against violence and harassment in the workplace

The remoteness and relative isolation of mining sites and housing camps make women more vulnerable to gender-based violence in the workplace, in comparison with other sectors. The male domination of the industry also contributes to this problem. Negative publicity on this issue can have a negative impact on the reputation of specific undertakings as well as on the industry as a whole and can make it more difficult to retain existing and recruit new female workers. Measures against violence and harassment at the workplace include clear policies on these issues, workforce training and an effective grievance mechanism in place.

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

The mining, coal and quarrying industry has been identified as one of the most highly male-dominated industries, with few women employed and an above-average male-female wage gaps. Research reports that many female workers in the industry feel that they do not receive the same level of support and have the same career chances as their male colleagues. One impact of this situation is that many female workers will be earning less money and not realizing their full career potential. Another possible impact is on local communities, particularly where the undertaking is the main employer, as fewer women will benefit from income and career chances. It also may contribute to the difficulties to recruit workers as women (who make up half of the labour force) may be reluctant to work in the sector. Racism, which results in demotivated workers and a negative workplace culture, has also been reported to be an issue in the industry, with many of the same impacts on minorities that gender discrimination has on women. Ensuring workforce inclusion, diversity, and that minorities have equal opportunities is therefore an important aspect of sustainability within the mining industry. Such measures include clearly communicated policies, effective grievance and remediation mechanisms, clear criteria and procedures for remuneration and promotion, mentoring and other forms of support.

S1/S2: Child labour

The ILO estimates that one million children are working in mining and quarries. The use of child labour is most prevalent in countries where labour rights are weak and/or poorly enforced and in artisanal and small-scale mining suppliers. In addition to the negative impact child labour can have on the health, development and well-being of children, there is reputational risk for undertakings using child labour in own operations or in the 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 the rights of all their suppliers' employees. The OECD has issued sector-specific guidelines on due diligence in mining, and the ILO has developed recommendations for action plans to address child labour in this sector.

S1/S2: Forced labour

The ILO estimates that roughly a quarter million adults are subject to forced labour in mining, as well as a significant proportion of the one million children working in the sector. As in the case of child labour, forced labour is concentrated in certain countries where labour rights are weak and in artisanal and small-scale mining suppliers.

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 the rights of all their suppliers' employees. The ILO, OECD, IOM and UNICEF have jointly issued recommendations for ending child labour, forced labour and human trafficking in global supply chains.

S1/S2: Adequate housing, including water and sanitation (Mining and coal only)

Adequate housing, including water and sanitation, is a material issue where mining, quarrying and coal operations are located in remote areas or in communities lacking the housing and other infrastructure needed to fully support the workforce. The quality of housing includes not only the physical condition of the housing structure but also the physical and social environment in which the housing is located. In some case of remote locations, infrastructure is completely lacking and workers may be flown in for weeks at a time. Housing currently provided by undertakings ranges from temporary camps to dormitories to homes. In these situations, the quality of this housing and the suitability of this housing for families, is a material issue. Policies, targets and action plans on this matter focus on the quality of housing that is provided to workers. Basic measures of housing quality used in the EU include access to water and sanitation, adequacy of heating, the absence of a leaking roof, and adequate space (i.e. lack of overcrowding).

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 to 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; 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.

S3: Security-related impacts

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

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 environmental and human rights defenders

The mining industry is one of the most closely watched sectors in terms of human rights protection and environmental defenders with several hundred attacks globally in addition to the concrete risk of threats and abuse. Ensuring the rights and protection of human rights and environmental 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; also 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 this. 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.

G1: Corporate culture (Code of conduct and ethics)

Ensuring that undertakings have a code of conduct and ethics that outlines how the undertaking and its employees are expected to conduct themselves to guarantee security and guidance in their everyday work. Mining and coal operations are in locations all over the world, and it is therefore important that undertakings within the 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 of high value. This may lead to an undertaking taking advantage 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 also the measures implemented to prevent this from occurring. It also covers the consequences of a breach of policy, potential reprimands for breaches 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 country 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 regarding legislation and political decisions. When democratic safeguards are not strong, political engagement and lobbying activities can result in less consideration of the interest of the local community. Only when both the interests of the undertaking and the interests of the local community are upheld there can be an effective and value creating operation.

G1: Management of relationships (including payment practices)

Managing relationships with governments, business partners, suppliers and stakeholders is 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. 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 avoiding 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.

G1: Protection of natural resources

Due to the value and nature of the natural resources exploited under mining contracts and licenses and/or contracts where such resources are purchased from the state, it means that there are significant opportunities to enrich individuals while the local community does not receive the full value that it should. These are further described below:

Licenses and contracts: As explained by EITI (The [Extractive Industries Transparency Initiative](#)), contracts, licenses and associated agreements are important elements as they explain the rights and obligations of all parties involved in the exploration and production of oil, gas and minerals.

Contract transparency can help curb corruption and empower citizens to assess whether they are getting a good deal for their resources as it informs on the terms that govern extractive projects, including revenues to national and subnational governments. This information can be crucial in contexts where precious revenues are impacted by market volatility and emerging energy transition policies.

Commodity trading: Per [EITI](#), sometimes, extractive companies pay governments for the right to extract resources with in-kind payments of oil, gas and minerals. The state or the state-owned enterprise (SOE) then sells these physical resources to commodity trading companies or domestic refineries. Commodity traders may also provide resource-backed loans to governments or state-owned companies in exchange for future production of commodities.

These are so significant, that almost half of total government revenues reported through the EITI come from the sale of oil, gas and minerals to commodity trading companies. The scale and significance of these payments make them a matter of public interest.

Without transparency over the terms of these transactions, commodity trading is vulnerable to corruption and can jeopardise public revenues. Commodity trading transparency ensures that all parties understand the terms on which trades take place and how these may affect the funds available for public expenditures and development.

Beneficial ownership: The real owners of extractive companies, known as the beneficial owners, are often kept anonymous or hidden by a chain of shell companies. This can be a particular challenge in the extractive industries, where knowing who has the rights to extract oil, gas and minerals is key to addressing risks of corruption or conflict of interest.

Protecting anonymity can deter investment and make it harder to curb corruption. It is estimated that developing countries have lost USD 1 trillion a year since 2011 as a result of corrupt or illegal deals, many of which involve anonymous companies. Investigations using beneficial ownership information culminated in data leaks such as the Panama Papers, the Luanda Leaks and the Pandora Papers.

Publishing details of company ownership can help close channels for corruption, enable effective taxation, build fairer markets, encourage responsible investment and manage business risk. Addressing these issues will remain critical as the energy transition gathers pace.