



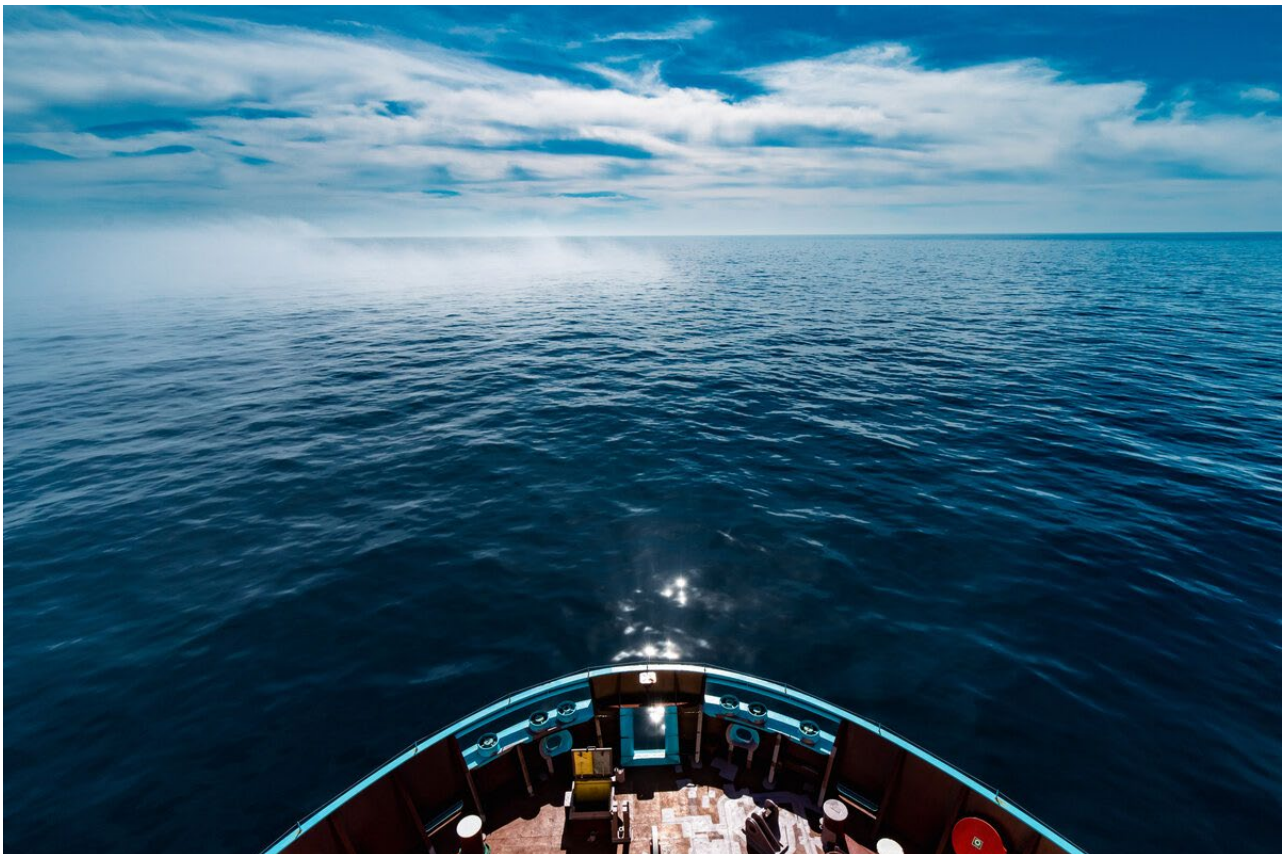
MARINE MINERALS ESG HANDBOOK

# ESG disclosure guidance for the marine minerals industry

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**Objective:**

DNV has developed a sector specific ESG disclosure guidance for the marine minerals industry that is inspired by good practice in other relevant industries and global ESG disclosure standards. The guidance document has been developed through an iterative process and in collaboration with a large stakeholder group to ensure the document becomes a useful tool for the industry and its stakeholders.

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**Acknowledgement of collaborating organisations:**

The development of this guidance document on ESG disclosures has been supported by a working- and a reference group consisting of representatives from contractors/operators, suppliers, industry associations, innovation clusters, research institutions, financial institutions, and non-governmental institutions, see appendix B for more details. Their input and support have been highly appreciated. The guidance document does not reflect a consensus between all parties involved.

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# 1 INTRODUCTION

## 1.1 Background

The world's demand for metal is rising and different solutions are being explored to meet the needs associated with population growth, urbanisation, decarbonised energy systems and circular economy goals. Marine minerals could help diversify the world's supply of responsibly sourced metals and could be an important source of some of the metals needed such as nickel, cobalt, manganese and copper.

The industry associated with such seabed minerals is in the exploration phase, and at the time of writing, commercial extraction has yet to commence. While some regulatory frameworks have been developed at the national level, the Mining Code for exploitation of marine minerals in the international seabed area (The Area) is still under development by the International Seabed Authority (ISA). A comprehensive set of regulations are already in place for The Area since 2000. These are known as the Mining Code for exploration of marine minerals. The ISA has adopted three sets of [exploration regulations](#) covering the prospecting and exploration for polymetallic nodules, polymetallic sulphides, and cobalt-rich ferromanganese crusts. These regulations are supplemented by a series of [recommendations](#), for example recommendations to contractors for "assessment of the possible environmental impacts arising from exploration for marine minerals in the Area", or on "content, format and structure of annual reports".

To support the development of the industry in a responsible manner and according to global stakeholder expectations, promoting a common understanding of the material Environmental-, Social- and Governance- (ESG) topics for the industry is relevant. Further, establishing unified ESG disclosures is key to document performance, promote transparency, build trust among stakeholders, and achieve social licence to operate.

The Marine Minerals ESG Handbook project has developed the first edition of an ESG disclosure framework for the marine minerals industry. This has been done through a 2-year, iterative process with involvement of marine mineral developers, contractors, financial institutions, science institutions, Non-Governmental Organisations, and regulators.

The marine minerals ESG guidance is building on existing global non-financial performance and ESG reporting standards from recognised institutions while considering the specific challenges and opportunities of the marine minerals industry. The key guidelines and reporting standards that have been the foundation for the development of the ESG handbook are further described in Appendix 1. Reporting organisations are also encouraged to use this guideline as a supplement to other reporting standards that they already use

The marine minerals industry is in an early phase and the Mining Code for exploitation of marine minerals in the Area are still under development. Sponsoring countries in the Area generally have national regulations in place, whereas several other national jurisdictions do not have regulations in place. The current global guideline for ESG disclosure is not dependent on, nor replacing regulations. This disclosure guideline is voluntary, and not part of ISA Mining Code, nor any national regulations. The guideline is put in place to create a uniform basis for communication with a wider set of stakeholder groups. As the industry develops and important milestones for the industry is reached, it will be beneficial to update the ESG disclosure guidance to ensure a common use of language and reflect updated expectations to the industry.

It should be noted that the European Union (EU) has adopted a sustainability reporting directive and will require annual reporting of material topics for large companies and listed small and medium sized companies in the coming years, starting from 2025 based on the 2024 reporting year. The European requirement to annual ESG disclosure will be more comprehensive than the disclosures recommended in this global guidance document. Thus, a gap assessment and additional disclosure as identified should be done to ensure regulatory compliance in the EU. The disclosure recommendations in this guidance document are nevertheless expected to provide useful input to ESG disclosure for the marine minerals industry in the EU, and the rest of the world as more ESG disclosure requirements become the norm.



## 1.2 Objective

The objective of this document is to:

- Provide guidance to meet international expectations regarding ESG disclosure for the marine minerals industry.
- Provide an overview of the material ESG topics for the marine minerals industry.
- Provide recommendations for the consistent disclosure of information for each material topic.
- Provide a tool for structured ESG documentation enabling useful ESG disclosures for internal and external stakeholders.
- Facilitate transparency and consistent reporting to inspire and facilitate optimization and improvement across the sector.

The objective of the document supports the concept of continuous and meaningful improvement over time. Improving ESG performance requires a commitment – both to a systematic approach and to continuous improvement (OECD Handbook on environmental due diligence in mineral supply chains, 2023<sup>1</sup>). Demonstrating continuous and meaningful improvement against appropriate and credible indicators is an important part of tracking performance. Several of the reporting metrics in the document focus on risks. In their guidelines for the mining industry, OECD focus on prioritising attention and resources to the most significant risks, measured based on severity of impacts and likelihood of potential events. This concept and approach are supported by this guideline for ESG disclosure for the marine minerals industry.

## 1.3 Scope

This guidance document does not intent to address nor replace compliance with regulatory requirements, instead it intends to promote voluntary disclosure of ESG topics material to the marine minerals industry to a broader stakeholder group.

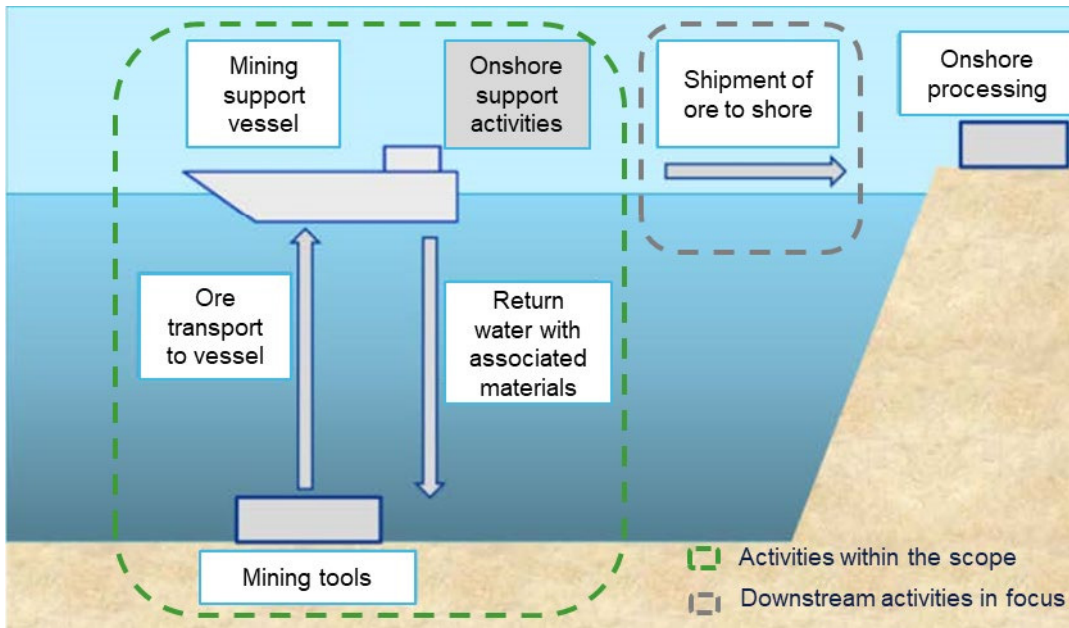
The scope of the ESG disclosure guidance covers disclosure related to all activities performed by the reporting organisation as part of the exploration- and extraction of marine minerals, including management of the upstream supply chain. Marine minerals in this context includes minerals that are formed at or below the seafloor, typically (but not exclusively) including polymetallic crusts and nodules (also referred to as (ferro-)manganese crust and manganese nodules), polymetallic sulphides as well as rare earth muds, sometimes referred to as REY muds (Rare Earth and Yttrium muds).

Reporting organisations that only has activities in the exploration phase of marine minerals can use the disclosure recommendations to the extent possible, but need to consider that some of the disclosure recommendations will be less relevant in this phase. As the organisations commence with commercial extraction of marine minerals, all recommendations will apply.

The ESG guidance also recommends disclosure of key metrics for the downstream value chain, with the focus on shipment of mineral ore to shore (given this is not part of the organisation's direct operations). Focus is on disclosure of indirect downstream GHG emissions, so called scope 3 emissions, and energy use of this downstream activity. The downstream value chains beyond shipment of mineral ore to shore are not covered by the scope, and it is noted that there are existing ESG reporting standards covering the processing and concentrating of minerals onshore.

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<sup>1</sup> OECD (2023), Handbook on Environmental Due Diligence in Mineral Supply Chains, OECD Publishing, Paris, <https://doi.org/10.1787/cef843bf-en>.



**Figure 1 Boundaries for the scope of the ESG guidance for marine minerals. The guidance focuses on the offshore activities of the industry, and the management of its supply chain. Onshore operations that support the offshore activities should be covered by the disclosure, if not disclosed separately. The scope also includes key disclosures for the downstream value chain, such as GHG emissions.**

## 1.4 Target users

Target users of the marine minerals ESG guideline are organisations that engage or plan to engage in exploration and/or commercial extraction of seabed minerals, their internal and external stakeholders, as well as financial institutions and insurers that cover the due diligence aspects. The primary users are expected to be contractor/operators of contract/license areas and their offshore sub-contractors that actively support exploration or commercial extraction activities. They should have a common goal of ensuring high performance for the ESG reporting metrics included in this guidance document. Sub-contractors will be expected to supply information on their performance for the relevant reporting metrics, as input to the annual disclosure of the contractor/operator.

## 1.5 Reporting principles and recommendations

The following reporting principles (GRI 1: Foundation 2021) are important to ensure that the disclosure provides information of sufficient quality for stakeholders:

- Accuracy – the information shall be correct and sufficiently detailed to provide an accurate description of the situation.
- Balance – the information shall be reported in an unbiased way providing a fair representation of the organisation’s negative and positive impacts.
- Clarity – the information shall be presented in a way that is accessible and understandable to general stakeholders.
- Comparability – the information shall be compiled and reported consistently to enable analysis of changes over time and comparison with other organisations or contract/licence areas.
- Completeness – the information shall be sufficient to enable an assessment of the impacts in the reporting period.



- Sustainability context – the information shall be reported in a way that shows the wider context of sustainable development.
- Timeliness – information shall be reported on a regular basis and in time for information users to make decisions.
- Verifiability – the information shall be gathered, recorded, compiled and analysed in such a way that the information can be examined to establish its quality.

Organisations are recommended to report on all disclosure metrics in the ESG handbook. It should nevertheless be noted that the current ESG disclosure guidance document is a voluntary reporting framework.

For organisations with limited ESG disclosure experience, a two-step approach to fulfilling all disclosure recommendations is supported. It is recommended to start with material topics and sub-topics that are achievable in a shorter time-frame, and make a plan for how to address remaining disclosure topics

It is recommended that the organisation obtain limited assurance by a third party, or other types of third-party verification of the ESG disclosure to create trust and build a solid sustainability narrative for the marine minerals industry.

## 1.6 Definitions and abbreviations

An overview of the terms used in the document can be found in section 1.6.1. An overview of abbreviations used can be found in section 1.6.2.

### 1.6.1 Definition of terms

Areas of Particular Environmental Interest	Areas of Particular Environmental Interest (APEI) have been established by the International Seabed Authority (ISA) in the Environmental Management Plan for the Clarion Clipperton Zone. These are areas set aside to be representative of the mining areas. They are meant to capture the various habitats and biota of the mining areas and are to remain protected from the effects of mining.
Base year	Historical datum (such as year) against which a measurement is tracked over time (GRI Standards Glossary, 2021).
Biogenic carbon dioxide (CO <sub>2</sub> ) emission	Emission of CO <sub>2</sub> from the combustion or biodegradation of biomass (GRI Standards Glossary, 2021).
Climate-related transition risk	Climate-related transition risks are risks that arise from the transition to a low-carbon and climate-resilient economy. They typically include policy risks, legal risks, technology risks, market risks and reputational risks and can arise from related transition events (ESRS E1).
Communities of interest	A group of people that share a common bond or interest. In the case of this ESG disclosure guideline, the shared interest is the specific areas for marine minerals extraction, and the negative or positive outcomes for the areas and/or the community of interest. The community of interest is not limited by specific geographical boundaries and should be more specifically defined by the organisation responsible for the activity. The term replaces “local communities” which is found to be less relevant for offshore deep-sea minerals extraction as the stakeholders are not necessarily local to the project site.
Contract/licence	The minerals exploration and/or extraction permit that has been granted by appropriate governing body (ISA grants contracts in the Areas).

Contract/licence area	The offshore geographic area of operation managed by the organisation, where mineral exploration or extraction/collection at sea may take place and that is covered by their contract/licence.
Contractor	Organisation given a contract by the International Seabed Authority to explore or extract marine minerals in the Area. In EEZ, other terms may be used, such as operator, licence holder or similar.
Disclosure metrics	The Key Performance Indicators (KPIs) selected for public disclosure.
Double materiality	Double materiality requires looking at both dimensions of impact and financial value, recognizing that an organisation can affect and be affected by ESG topics.
Energy intensity	The efficiency of energy use in activities, that serves as an indicator of environmental impact, with lower energy intensity indicating higher efficiency and lower emissions per unit of activity.
ESG topic	ESG topics are subjects divided into 3 categories: environmental, social and governance.
Impact Reference Zone	An area surrounding a mining operation where environmental impacts are assessed and compared to baseline conditions. It serves as a reference area for evaluating the extent and severity of ecological changes resulting from mining activities.
Marine minerals extraction	Marine minerals extraction is a general term used to describe the activities connected with commercial mining of marine minerals. The term equals the general term of “marine minerals exploitation” used in the ISA Mining Code.
Material topic	Topics that represent the organisation’s most significant impacts on the economy, environment, and people, including impacts on their human rights (GRI Standards Glossary, 2021).
Operational site	Area where mining operations and related activities (such as environmental monitoring) take place.
Preservation Reference Zones	Preservation Reference Zones (PRZ) are areas with no impact from mining and function as a representative and stable biota of the seabed which is used to capture any natural variations in biodiversity in a similar marine environment over time.
Reporting period	Specific time period covered by the reported information (GRI Standards Glossary, 2021)
Risk	In this context risk is the results of the likelihood of the occurrence of an event combined with the severity of impacts of the same event.
Stakeholder	Individual or group that has an interest that is affected or could be affected by the organisation’s activities (GRI Standards Glossary, 2021).
Sensitive location	Sensitive locations are defined by TNFD as areas important for biodiversity, including species; and/or areas of high ecosystem integrity; and/or areas of rapid decline in ecosystem integrity; and/or areas of high physical water risks; and/or areas of importance for ecosystem service provision, including benefits to Indigenous Peoples, Local Communities and stakeholders.

Sub-contractor	In the context of this guideline, sub-contractor means an entity working with offshore operations on behalf of the contractor, operator or licence/lease holder, to perform activities necessary to explore or extract marine minerals. Workers who are not employees but whose work and/or workplace is controlled by the organisation are included in the definition of sub-contractors-
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## 1.6.2 Abbreviations

ACOPS	Advisory Committee on Protection of the Sea
APEI	Areas of Particular Environmental Interest
CBD	Convention on Biological Diversity
CCZ	Clarion Clipperton Zone
EBSA	Ecologically or Biologically Significant Area
EITI	The Extractive Industries Transparency Initiative
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
EEZ	Exclusive Economic Zone
ESG	Environmental, Social, and Governance
ESRS	European Sustainability Reporting Standards
GHG	Greenhouse gas
GRI	Global Reporting Initiative
IFC	International Finance Corporation
IIRC	International Integrated Reporting Council
ILO	International Labour Organisation
ISA	International Seabed Authority
KPI	Key Performance Indicator
NGO	Non-governmental organisation
OECD	Organisation for Economic Co-operation and Development
PRZ	Preservation Reference Zone
REMP	Regional Environmental Management Plan
RMF	Responsible Mining Foundation
SASB	Sustainability Accounting Standards Board

SBTN	Science-based Targets for Nature
SDG	Sustainable Development Goals
SOE	State owned enterprise or state-owned entity
TCS	Technical Screening Criteria
TEG	Technical Expert Group (for Sustainable Finance)
TCFD	Task force on Climate-related Financial Disclosures
TNFD	Task force on Nature-related Financial Disclosure
TSM	Towards Sustainable Mining
UN	United Nations
UNCLOS	UN Convention on the Law of the Sea
UNGP	United Nations Guiding Principles on Business and Human Rights
VME	Vulnerable marine ecosystems
WBG	World Bank Group

## 2 MATERIALITY ASSESSMENT FOR MARINE MINERALS INDUSTRY

### 2.1 Overview of materiality assessment process

For the development of this ESG handbook, a materiality assessment was conducted to identify the most material topics for the marine minerals industry. The outcome of that assessment is reflected in the disclosure topics and sub-topics recommended for this disclosure guidance document.

The assessment had 4 major steps:

1. ESG horizon scanning where existing guidelines on sustainable business conduct, including OECD guidelines, and relevant reporting standards were reviewed (see Appendix A). An overview of ESG topics that had been identified to be material in the mining-, oil and gas-, and maritime transportation industries, was developed and the specific industry challenges and opportunities of the marine minerals industry were identified.
2. Industry regulatory and development review of relevant existing and upcoming regulations, such as the Mining Code for exploration and draft Mining Code for exploitation, current national and regional non-financial reporting requirements and the upcoming requirements in the European sustainability reporting directive and reporting standards.
3. Stakeholder feedback was collected in several steps of the development, both for defining the scope of the ESG disclosure document, during identification of the material topics for the industry and sub-topics for each material topic. Stakeholder feedback was primarily collected from the Reference group of the project. The Reference group consisted of 33 organisations excluding the observers (see **Error! Reference source not found.**, and represented marine mineral developers, contractors, financial institutions, science institutions, non-governmental organisations, and regulators of the industry. The draft disclosure guidance document was also discussed in a workshop open to all participants at the Underwater Minerals Conference in October 2023.
4. Customization of language for the marine minerals industry via meetings and discussions with a broader group of marine mineral developers and contractors, as well as regulators and industry associations.

## 2.2 Overview of material ESG topics

This section provides an overview of ESG topics for disclosure, that are identified as material for the marine minerals industry.

**Table 1 Overview of ESG topics for disclosure**

ESG AREA	MATERIAL TOPICS
<b>ENVIRONMENT</b>	E1 – GHG emissions
	E2 – Non-GHG emissions
	E3 – Energy
	E4 – Climate- and nature-related risks and opportunities
	E5 – Ecosystems and biodiversity
	E6 – Water quality, pollution, and other disturbances
	E7 – Waste and circular economy
	E8 – Mine closure
<b>SOCIAL</b>	S1 – Stakeholder engagement and social performance
	S2 – Capacity building
	S3 – Occupational health and safety
	S4 – Labour rights
	S5 – Human rights
	S6 – Diversity and equal opportunity
<b>GOVERNANCE</b>	G1 – Economic performance
	G2 – Licensing fees, taxes, and royalties
	G3 – Anti corruption
	G4 – Public policy
	G5 – Compliance with laws and regulations
	G6 – Critical incident management
	G7 – Supply chain management



### 3 GENERAL DISCLOSURE REQUIREMENTS

#### 3.1 Disclosure about the reporting organisation

To provide key insights about the organisation and its operations, the organisation should disclose information related to the following subtopics:

- A. Organisational details
- B. Activities, value chain and other business relationships
- C. Contract areas and production
- D. Offshore fleet and mining equipment
- E. List of material topics

##### 3.1.1 GEN1 A Organisational details

The reporting organisation should report the following information:

- a) Name.
- b) Ownership and legal form.
- c) Location of its headquarters.
- d) Entities included in its sustainability reporting.
- e) Reporting period and frequency of its sustainability reporting.
- f) Contact point for questions about the report or reported information.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 2: General Disclosures 2021](#)

**Reference disclosures:** GRI 2: General Disclosures (2-1 and 2-3)

##### 3.1.2 GEN1 B. Activities, value chain, and other business relationships

The reporting organisation should report the following information:

- a) The sector(s) in which it is active.
- b) Its value chain, including:
  - i. the organisation's activities, products, services, and markets;
  - ii. the organisation's supply chain;
  - iii. *the entities downstream from the organisation and their activities.*
- c) Other relevant business relationships.
- d) Significant changes in a, b, and c compared to the previous reporting period.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 2: General Disclosures 2021](#)

**Reference disclosures:** GRI 2: General Disclosures (2-6)

### 3.1.3 GEN1 C Contract/licence areas and production

The reporting organisation should report the following information:

- a) The total number of contract/licence areas, their regional location and contract/licence name/identity including:
  - i. a breakdown per exploration and mineral extraction areas;
  - ii. total size of all sites in square km (km<sup>2</sup>), and breakdown per exploration and mineral extraction areas.
- b) The total estimated remaining resources in the contract/licence areas in (a), broken down by:
  - i. mineral type;
  - ii. contract/licence area.
- c) The annual commercial production in tons of dry mineral-bearing ore lifted to surface vessel, and breakdown per contract/licence area.

**Guidance:**

For a, provide coordinates for the polygon of the contract area when reporting the geographic location. Otherwise, the organisation should describe the location through maps.

For c, the annual commercial production of dry mineral-bearing ore should be calculated for the reporting period, according to applicable standard and guidelines from ISA. Key assumptions and uncertainties in the calculations should be disclosed to provide necessary context.

**Reference disclosures:** NA

### 3.1.4 GEN1 D Offshore fleet and mining equipment

The reporting organisation should describe its offshore fleet, split by owned and contracted vessels/units, and operations including:

- a) Total deadweight tonnage for all mining vessels.
- b) Number of offshore vessels categorized by mining-, support- and transportation vessels.
- c) Total distance travelled per vessel type listed in (b).
- d) Number of shipboard employees per vessel type listed in (b).
- e) Number of port calls per vessel type listed in (b).
- f) Number of operating days per mining vessel.

- g) Type, size, and number of operational seabed mining units.
- h) Number of hours seabed mining units were operational on the seafloor
- i) Total distance travelled and/or total area covered by seafloor mining units.
- j) Any other supporting subsea equipment which is not included in g) (whether on the seabed or in the water column).

**Guidance:**

When describing the offshore fleet of vessels and mining units, information should include both owned and contracted vessels/units. Likewise the number of shipboard employees should include all personnel onboard, regardless of their specific employment contract. Guests, inspectors and/or researchers who are visiting the ship and not taking part in normal operation can be omitted.

For f, operating days are calculated as the number of available days in a reporting period minus the aggregate number of days that the vessels are off-hire due to unforeseen circumstances (i.e., a measure of days in a reporting period during which vessels are operational generate revenue).

For g, the type of operational seabed mining unit will depend on the type of marine minerals being extracted. For extraction of nodules the seabed units will typically be known as seafloor collectors.

For h, the number of hours in the reporting period the seabed units are operating as expected on the seafloor, in total and on average per seabed unit.

For i, this can for example be the total distance travelled in km by the mining unit(s) while extracting polymetallic nodules and area covered in km<sup>2</sup> by the same mining unit(s). For extraction of e.g. manganese crust, reporting the area covered in km<sup>2</sup> may be sufficient, depending upon the technology used.

For j, this can for example include riser(s), pumps, remote operated vehicles (ROVs) etc that are part of operations.

**Reference disclosures:** NA



### 3.1.5 GEN1 E List of material topics

The reporting organisation should report the following information:

- a) List material topics being disclosed
- b) Report changes to the list of material topics compared to the previous reporting period.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 3: Material Topics 2021](#)

For a, the organisation should list the material topics that that the organisation has selected for disclosure. If the list deviates from the material topics identified for the marine minerals industry in this ESG disclosure document, this should be explained.

For b, this provides an opportunity for the organisation to explain why a topic that was considered material in the previous reporting period is no longer considered material, or why a new material topic has been included in the reporting.

**Reference disclosures:** GRI 3: Material Topics 2021 (3-2)

## 3.2 Disclosure of management of material topics

### 3.2.1 GEN2 Management of material topics

For each material topic the organisation should report the following information:

- a) Describe the actual and potential negative and positive impacts of the organisations activities on the environment, people, and economy, including indirect impacts that may be a result of its business relationships.
- b) Describe its policies or commitments regarding the material topic.
- c) Describe actions taken to manage the topic and related impacts.
- d) Present the measurable, outcome oriented, and time bound targets that the organisation uses to track the effectiveness of actions.
- e) Describe whether and how stakeholders have been involved in setting targets or defining actions to manage the topic.

#### Guidance:

For general guidance regarding disclosures reference is made to: [GRI 3: Material Topics 2021](#).

Disclosure GEN2:

- The disclosure of management of material topics should be done as part of disclosure of each material topic; for each material topic it is referred to this section for the management reporting.
- This disclosure requires the organisation to explain how it manages each of its material topics. The exception is the topic “E4 Climate- and nature-related risks and opportunities”. It is assumed that management reporting of E1 GHG emissions and E5 Biodiversity and ecosystem impact together with the recommended disclosure in E4, will cover the management reporting for E4.
- In addition to this disclosure, there may also be disclosures and guidance in the specific material topic that address reporting information about how the organisation manages a topic. In case of overlap, the organisation does not need to repeat this information if it is already reported under another disclosure. The organisation can report the information once and provide a reference to this information to fulfil the corresponding reporting requirement.
- If the organisation’s approach to managing a material topic, such as its policies or actions taken, applies to other material topics, the organisation does not need to repeat this information for each topic. The organisation can report this information once, with a clear explanation of all the topics it covers.
- If the organisation cannot report the required information about an item specified in this disclosure because the item (e.g., policy, action) does not exist, this should be reported instead. The organisation can explain the reasons for not having this item or describe any plans to develop it.

Requirement GEN2 (a) enables the organisation to indicate if a topic is material because of negative impacts, positive impacts, or both. It does not require a list of all the impacts identified or a detailed description of the impacts. Instead, the organisation can provide a high-level overview of the impacts it has identified.

**Reference disclosures:** GRI 3: Material Topics 2021 (3-3).

## 4 DISCLOSURE OF ENVIRONMENTAL TOPICS

The environmental topics that have been identified as potentially material for the marine minerals industry are presented in the list below. Each material topic is further described in the following sub-sections, and the disclosure metrics presented.

### Material topics:

1. GHG emissions
2. Non-GHG air emissions
3. Energy
4. Climate- and nature-related risks and opportunities
5. Ecosystems and biodiversity
6. Water quality, pollution, and other disturbances
7. Waste and circular economy
8. Mine closure

### 4.1 E1 – GHG emissions

Greenhouse gas (GHG) emissions are a major contributor to climate change. Therefore, there is a global aim to control the volume and reduce GHG emissions, which commonly is divided into Scope 1, 2 and 3 emissions. Scope 1 includes direct GHG emissions from owned or controlled sources, Scope 2 covers indirect emissions from purchased energy consumption, and Scope 3 encompasses all other indirect emissions from activities throughout the organization's value chain. For the marine minerals industry, the majority of GHG emissions will come from processing and refining of minerals onshore. For the offshore operations covered in this handbook, the majority of GHG emissions are connected to energy used by vessels (including energy used to power the mining systems and lifting the mineral ore from the seabed to the surface), as well as shipment of the mineral ore to shore. The ESG disclosure guidance mainly focuses on GHG emissions related to the marine mineral extraction in the contract/licence area but also includes disclosure of GHG emissions derived from the shipment of mineral ore to shore.

### Subtopics:

- A. Direct (Scope 1) GHG emissions
- B. Indirect (Scope 2) GHG emission
- C. Other indirect (Scope 3) GHG emissions
- D. GHG emissions intensity

**Reference standards and legislative background:** GRI 305: Emissions (2016), GRI 14: Mining Sector 2024, Taskforce on climate-related financial disclosures (TCFD), the GHG Protocol, the International Maritime Organization (IMO) and the MARPOL (International Convention for the Prevention of Pollution from Ships) Annex VI.

#### 4.1.1 E1 GEN2 Management of the material topic

The organisation should report on the management of the material topic according to requirements under GEN2 (a) to (e) in section 3.2.1.



## 4.1.2 E1A. Direct (Scope 1) GHG emissions

The reporting organisation should report the following information:

- a) Gross direct (Scope 1) GHG emissions in metric tonnes of CO<sub>2</sub>-equivalent.
- b) Gases included in the calculation.
- c) Biogenic CO<sub>2</sub> emissions in metric tonnes of CO<sub>2</sub>-equivalent (if biofuels are used).
- d) A breakdown of the gross direct (Scope 1) GHG emissions by contract/licence area.
- e) If applicable, Scope 1 emissions reduction target and base year used for the calculation of emission reductions over time, including:
  - i. the rationale for choosing the base year;
  - ii. emissions in the base year;
  - iii. the context for any significant changes in emissions that triggered recalculations of base year emissions.
- f) Scope 1 emissions reductions as a direct result of reduction initiatives.
- g) If applicable, the gross direct (Scope 1) GHG emission from shipment of mineral ore to shore, by contract/licence area.
- h) Consolidation approach for emissions; whether equity share, financial control, or operational control.
- i) Source of any emission factors, standards, methodologies, assumptions and/or calculation tools used.

### Guidance:

For general guidance regarding disclosures, reference is made to [GRI 305: Emissions 2016](#), [ESRS E1](#), [TCFD](#), and the [Scope 1 & 2 GHG Inventory Guidance](#)

Disclosure E1A:

- exclude any GHG trades from the calculation of gross direct (Scope 1) GHG emissions;
- use the most recent Global Warming Potential (GWP) values published by the IPCC based on a 100-year timeframe to calculate CO<sub>2</sub>eq emissions of non-CO<sub>2</sub> gases;
- report biogenic emissions of CO<sub>2</sub> from the combustion or biodegradation of biomass separately from the gross direct (Scope 1) GHG emissions. Exclude biogenic emissions of other types of GHG (such as CH<sub>4</sub> and N<sub>2</sub>O), and biogenic emissions of CO<sub>2</sub> that occur in the life cycle of biomass other than from combustion or biodegradation (such as GHG emissions from processing or transporting biomass). This is especially relevant to reduce maritime transport emissions.

For b, report on gases such as CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, SF<sub>6</sub>, NF<sub>3</sub>, or all.

For g, if the shipment of mineral ore to shore is conducted by a sub-contractor, the activity should be included under Scope 3 emissions and are thereby included in Disclosure E1C.

**Reference disclosures:** GRI 305: Emissions 2016 (305-1), ESRS E1-6, GRI 14: Mining Sector 2024 (14.1.5), TCFD (4. Metrics and targets), and the GHG Protocol Scope 1 & 2 GHG inventory Guidance.

### 4.1.3 E1B. Indirect (Scope 2) GHG emissions

The reporting organisation should report the following information:

- a) Gross indirect (Scope 2) GHG emissions in metric tonnes of CO<sub>2</sub>-equivalent.
- b) Gases included in the calculation.
- c) If applicable, a breakdown of the indirect (Scope 2) GHG emissions by contract area.
- d) If applicable, indirect (Scope 2) emissions reduction target and base year used for the calculation of emission reductions over time, including:
  - i. the rationale for choosing the base year;
  - ii. emissions in the base year;
  - iii. the context for any significant changes in emissions that triggered recalculations of base year emissions.
- e) Indirect (Scope 2) GHG emissions reductions as a direct result of reduction initiatives.
- f) If applicable, the gross indirect (Scope 2) GHG emissions from shipment of mineral ore to shore, by contract area.
- g) Consolidation approach for emissions; whether equity share, financial control, or operational control.
- h) Source of any emission factors, standards, methodologies, assumptions and/or calculation tools used.

**Guidance:**

For general guidance regarding disclosures, reference is made to [GRI 305: Emissions 2016](#), [ESRS E1](#), [TCFD](#), the [Scope 1 & 2 GHG Inventory Guidance](#), and the [Scope 2 Guidance](#).

Disclosure E1B:

- exclude any GHG trades from the calculation of gross indirect (Scope 2) GHG emissions;
- exclude other indirect (Scope 3) GHG emissions that are disclosed as specified in Disclosure E1C;
- use the most recent Global Warming Potential (GWP) values published by the IPCC based on a 100-year time horizon to calculate CO<sub>2</sub>eq emissions of non-CO<sub>2</sub> gases;

For a, report on marked-based and location-based emissions if applicable

For b, report on gases such as CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, SF<sub>6</sub>, NF<sub>3</sub>, or all.

For c, account and report indirect (Scope 2) GHG emissions based on both the location-based and market-based methods, if relevant.

**Reference disclosures:** GRI 305: Emissions 2016 (305-2), ESRS E1-6, GRI 14: Mining Sector 2024 (14.1.6), TCFD (4. Metrics and targets), and the GHG protocol Scope 2 Guidance.

### 4.1.4 E1C. Other indirect (Scope 3) GHG emissions

The reporting organisation should report the following information:

- a) Gross other indirect (Scope 3) GHG emissions in metric tonnes of CO<sub>2</sub>-equivalent.

- b) Gases, indirect (Scope 3) emissions categories and activities included in the calculation.
- c) Biogenic CO<sub>2</sub> emissions in metric tonnes of CO<sub>2</sub>-equivalent (if biofuels are used).
- d) The gross indirect (Scope 3) GHG emissions by contract/licence area.
- e) If applicable, separately report the gross indirect (Scope 3) GHG emissions from shipment of mineral ore to shore, by contract/licence area.
- f) If applicable, indirect (Scope 3) emissions reduction target and base year used for the calculation of emission reductions over time, including:
  - i. the rationale for choosing the base year;
  - ii. emissions in the base year;
  - iii. the context for any significant changes in emissions that triggered recalculations of base year emissions.
- g) Source of any emission factors, standards, methodologies, assumptions and/or calculation tools used.

**Guidance:**

For general guidance regarding disclosures, reference is made to [GRI 305: Emissions 2016](#), [ESRS E1](#), [TCFD](#), and [Scope 3 Calculation guidance](#).

Guidance E1C:

- exclude any GHG trades from the calculation of gross other indirect (Scope 3) GHG emissions;
- use the most recent Global Warming Potential (GWP) values published by the IPCC based on a 100-year time horizon to calculate CO<sub>2</sub>-equivalent emissions of non-CO<sub>2</sub> gases.

For b, report on gases such as CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, SF<sub>6</sub>, NF<sub>3</sub>, or all.

**Reference disclosures:** GRI 305: Emissions 2016 (305-3), ESRS E1-6, TCFD (4. Metrics and targets), and the GHG protocol Scope 3 Calculation Guidance.

#### 4.1.5 E1D. GHG emissions intensity

The reporting organisation should report the following information:

- a) Total GHG emissions (Scope 1 and Scope 2) per volume in metric tonnes of dry mineral ore lifted to the surface vessel, its moisture content, and a breakdown per contract area.
- b) GHG emissions (Scope 1 and Scope 2) and the total GHG emissions per net revenue.
- c) If applicable, the GHG emission intensity ratio for direct (Scope 1), and if applicable, indirect (Scope 2) GHG emissions, from shipment of mineral ore to shore per volume in metric tonnes of dry mineral ore lifted to the surface, in total and by contract area.

**Guidance:**

For general guidance regarding disclosures, reference is made to [GRI 305: Emissions 2016, ESRS E1](#) and [TCFD](#).

Disclosure E1D:

- report on total annual GHG emissions as the sum of gross Scope 1 and Scope 2 emissions from Disclosure E1A and E1B.
- use the net revenue amounts from the organisation's financial statements.

For a, the annual production of dry mineral ore should be calculated for the reporting period, as metric tons of wet mineral ore minus the estimated moisture content (see GEN1 C for the disclosure metric on annual production). Key assumptions and uncertainties in the calculations should be disclosed to provide necessary context.

**Reference disclosures:** GRI 305: Emissions 2016 (305-4), ESRS E1-6, GRI 14: Mining Sector 2024 (14.1.8), and TCFD (4. Metrics and targets).

## 4.2 E2 – Non-GHG air emissions

Non-GHG air emissions such as NO<sub>x</sub> and SO<sub>x</sub> have negative impacts on climate, ecosystems, air quality, habitats, agriculture, and human and animal health. Deterioration of air quality, acidification, forest degradation and public health concerns have led to local and international regulations to control emissions of these pollutants. Reductions in the emission of regulated pollutants lead to improved health conditions for workers. In regions with emission caps, the volume of emissions also has direct cost implications. This ESG guidance disclosure focuses on air emissions related to marine mineral exploration and extraction in the contract/licence area.

**Subtopics:**

- A. Nitrogen oxides (NO<sub>x</sub>), sulphur oxides (SO<sub>x</sub>), and other significant air emissions

**Reference standards and legislative background:** GRI 305: Emissions (2016), SASB Standard for Marine Transportation, TNFD Draft sector guidance – Oil and gas, ES reporting guidelines for shipping and offshore industries, and International Maritime Organization (IMO) and the MARPOL (International Convention for the Prevention of Pollution from Ships) Annex VI.

### 4.2.1 E2 GEN2 Management of the material topic

The organisation should report on the management of the material topic according to requirements under GEN2 (a) to (e), in section 3.2.1.

### 4.2.2 E2A. Nitrogen oxides (NO<sub>x</sub>), sulphur oxides (SO<sub>x</sub>), and other significant air emissions

The reporting organisation should report the following information:

- a) Significant air emissions, in metric tonnes, for each of the following:  
NO<sub>x</sub>, SO<sub>x</sub>, volatile organic compounds (VOC), particulate matter, and other standard categories such as ozone depleting substances (ODS), if relevant.

- b) For extraction of polymetallic sulphide deposits, report on air emissions of hydrogen sulphide (H<sub>2</sub>S).
- c) Source of the emission factors used.
- d) Standards, methodologies, assumptions, and/or calculation tools used, such as whether data are from continuous emissions monitoring systems (CEMS), engineering calculations, or mass balance calculations.
- e) Report a breakdown of the significant air emission per contract area.

**Guidance:**

For general guidance regarding disclosures, reference is made to [GRI 305: Emissions 2016, SASB standard for Marine Transport](#) and the [TNFD Draft sector guidance – Oil and gas](#)

Disclosure E2A: Select one of the following approaches for calculating significant air emissions:

- direct measurement of emissions (such as online analysers);
- calculation based on site-specific data;
- calculation based on published emission factors;
- estimation. If estimations are used due to a lack of default figures, the organisation should indicate the basis on which figures were estimated.

It is recommended to include non-GHG air emissions released during exploration and extraction, from fuel combustion of powering machinery, evaporation losses, fugitive emissions from equipment leaks and failures, potential emissions from the substrate collected etc.

For a, NO<sub>x</sub> includes NO, NO<sub>2</sub>, and NO<sub>3</sub>, but excludes N<sub>2</sub>O. SO<sub>x</sub> includes SO, SO<sub>2</sub> and SO<sub>3</sub>. Other standard categories can include black carbon and ammonia (NH<sub>3</sub>). For ozone-depleting substances, report the production, imports, and exports of ozone-depleting substances (ODS) in metric tons of CFC-11 (trichlorofluoromethane) equivalent, and the substances included in the calculation.

For b, H<sub>2</sub>S is relevant when exploiting polymetallic sulphides.

**Reference disclosures:** GRI 305: Emissions 2016 (305-6 and 305-7), SASB TR-MT-120a.1, TNFD Draft sector guidance – Oil and gas, and ES reporting guidelines for shipping and offshore industries.

### 4.3 E3 – Energy

Using energy more efficiently and opting for low carbon and/or renewable energy sources is essential for combating climate change and for lowering an organisation’s overall environmental footprint. For marine mineral extraction, the main energy use stems from running the production vessels and associated activities such as lifting the mineral ore from the seabed to the surface and shipment of the mineral ore to shore. Energy use also occurs throughout the upstream and downstream activities connected with an organisation’s operations. The ESG disclosure guidance focuses on the energy use from activities in marine mineral exploration and extraction and downstream shipment to shore.

**Subtopics:**

- A. Energy consumption
- B. Energy intensity

**Reference standards and legislative background:** GRI 302: Energy 2016 and ESRS E1.

#### 4.3.1 E3 GEN2 Management of the material topic

The organisation should report on the management of the material topic according to requirements under GEN2 (a) to (e), in section 3.2.1.

#### 4.3.2 E3A. Energy consumption

The reporting organisation should report the following information:

- a) Total energy consumption broken down into minerals exploration and extraction, and shipment to shore including:
  - i. total fuel consumption, including fuel types used, from renewable and non-renewable source (report separately);
  - ii. total electricity consumption (in joules, watt-hours, or multiples).
- b) Standards, methodologies, assumptions, and/or calculation tools used, including source of the conversion factors used.
- c) A breakdown of the energy consumption from E3A-a, by contract/licence area.



**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 302: Energy 2016](#) & [ESRS E1](#).

Disclosure E3A:

- avoid the double-counting of fuel consumption, when reporting self-generated energy consumption. If the organisation generates electricity from a non-renewable or renewable fuel source and then consumes the generated electricity, the energy consumption shall be counted once under fuel consumption;
- report fuel consumption separately for non-renewable and renewable fuel sources;
- only report energy consumed by entities owned or controlled by the organisation;
- calculate the total energy consumption within the organisation in joules or multiples using the formula in GRI 302-1.

**Reference disclosures:** GRI 302: Energy 2016 (302-1) & ESRS E1-5.

### 4.3.3 E3B. Energy intensity

The reporting organisation should report the following information:

- a) Energy intensity as total energy consumption broken down into shipment to shore and extraction of marine minerals, in metric tonnes of dry mineral ore lifted to the surface vessel.
- b) Energy intensity as energy consumption per net revenue.
- c) A breakdown of the energy intensity by contract area.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 302: Energy 2016](#) and [ESRS E1](#).

Disclosure E3B:

- use the net revenue amounts from the relevant line item or notes in the financial statements;
- include the types of energy included in the intensity ratio; whether fuel, electricity, heating, cooling, steam, or all.

For a, the annual production of dry mineral ore should be calculated for the reporting period, as metric tons of wet mineral ore minus the estimated moisture content (see GEN1 C for the disclosure metric on annual production). Key assumptions and uncertainties in the calculations should be disclosed to provide necessary context.

**Reference disclosures:** GRI 302: Energy 2016 (302-3) & ESRS E1-5.

## 4.4 E4 – Climate- and nature-related risks and opportunities

Organisations contribute to changing the climate and nature and are simultaneously affected by it. The climate- and nature-related risks and opportunities refer to how an organisation adjusts to current and anticipated changes in climate, ecosystem services and society at large in the coming decades. Managing the risks and opportunities of the transitional decades ahead will be important for value creation, and disclosure of this topic has been requested by investors and financiers globally. The disclosures included within this topic are based on the recommendations from TCFD and TNFD. It comprises governance, strategy, risk and impact management, and metrics and targets related to climate and nature. To ensure comprehensive reporting on these topics, it is recommended that the organisation follow the full TCFD and TNFD recommendations. As reporting on the management is covered in the metrics, the GEN2 reporting is omitted for this topic.

### Subtopics:

- a) Governance of climate- and nature-related, risks and opportunities
- b) Actual and potential impacts of climate- and nature-related risks and opportunities on the organisation's businesses, strategy, and financial planning
- c) Identification, assessment, and management of climate- and nature-related risks
- d) Metrics and targets used to assess and manage relevant climate- and nature-related risks and opportunities

**Reference standards and legislative background:** TCFD and TNFD. ISA Draft guidelines on the tools and techniques for hazard identification and risk assessment ([ISBA/27/C/8](#)).

### 4.4.1 E4A. Governance of climate- and nature-related risks and opportunities

The reporting organisation should report the following information:

- a) Describe the board's oversight and management's role in assessing and managing of:
  - i. climate-related risks and opportunities;
  - ii. nature-related dependencies, impacts, risks, and opportunities.

#### Guidance:

For general guidance regarding disclosures reference is made to: [TCFD](#) and [TNFD](#).

**Reference disclosures:** GRI 11: Oil and Gas 2021 (11.2.1), TCFD and TNFD (1. Governance).

### 4.4.2 E4B. Actual and potential impacts of climate- and nature-related risks and opportunities

The reporting organisation should report the following information on the organisation's businesses, strategy, and financial planning:

- a) For the short, medium, and long term describe:
  - i. the climate-related risks and opportunities the organisation has identified;

- ii. the nature-related dependencies, impacts, risks, and opportunities the organisation has identified.
- b) Describe the effect on the organisation's businesses, strategy, and financial planning from:
  - i. climate-related risks and opportunities;
  - ii. nature-related risks and opportunities.

**Guidance:**

For general guidance regarding disclosures reference is made to: [TCFD](#) and [TNFD](#).

For a, define the short, medium, and long-term relative to the duration of the project and the of the anticipated environmental impacts.

For a-i, it is also recommended to report on the climate-related risks related to Scope 1, 2 and if relevant, Scope 3 emissions. Risks related to Scope 1 emissions can be more related to technical or legal risks, while risks related to Scope 3 emissions can be linked to transition risk affecting the behaviour of the consumers and business partners.

**Reference disclosures:** TCFD & TNFD (2. Strategy).

#### 4.4.3 E4C. Identification, assessment, and management of climate- and nature-related, risks and opportunities

The reporting organisation should report the following information:

- a) Describe the organisation's processes for identifying, assessing, and managing:
  - i. climate-related risks and opportunities;
  - ii. nature-related dependencies, impacts, risks, and opportunities.
- b) Describe how affected stakeholders are engaged by the organisation in its assessment of, and response to, nature-related dependencies, impacts, risks, and opportunities.

**Guidance:**

For general guidance regarding disclosures reference is made to: [TCFD](#) and [TNFD](#).

**Reference disclosures:** TCFD and TNFD (3. Risk management).

#### 4.4.4 E4D. Metrics and targets used to assess and manage relevant climate- and nature-related risks and opportunities

The reporting organisation should report the following information:

- a) Disclose the metrics used to assess and manage:
  - i. relevant climate related risks and opportunities;
  - ii. material nature related risks and opportunities in line with its strategy and risk management process;
  - iii. dependencies and impacts on nature.

b) Describe the organisations climate- and nature- related targets and goals.

**Guidance:**

For general guidance regarding disclosures reference is made to: [TCFD](#) and [TNFD](#)

**Reference disclosures:** TCFD and TNFD (4. Metrics and targets).

## 4.5 E5 – Ecosystems and biodiversity

The state of ecosystems and biodiversity is a material topic for marine minerals as companies need to address and manage the concerns and potential impacts that marine mineral extraction can have on the environment. To enable a holistic understanding of the functionality and completeness of an ecosystem, ecosystem integrity needs to be considered, as well as the services provided by this ecosystem. By mapping and monitoring the state of the ecosystems before, during, and after an operation, proper management of the ecosystem- and biodiversity-related impact can be performed. This includes mapping of sensitive locations and impacts from the direct drivers of biodiversity loss. Demonstrating good stewardship related to ecosystem and biodiversity is important to obtain the social licence to operate, ensure access to finance, as well as meeting regulatory requirements.

**Subtopics:**

- A. Ecosystem integrity
- B. Ecosystem services
- C. State of biodiversity
- D. Sensitive and protected marine areas
- E. Direct drivers of biodiversity loss

**Reference standards and legislative background:** GRI 101: Biodiversity 2024, GRI 14: Mining Sector 2024, GRI 3: Material Topics 2021, TNFD LEAP approach and the TNFD Draft sector guidance - Oil and gas. ISA Draft regulations on exploitation of Mineral resources in the Area (ISBA/29/C/CRP.1), ISA Draft guidelines for the establishment of baseline environmental data (ISBA/27/C/11), ISA Draft standard and guidelines for the environmental impact assessment process (ISBA/27/C/4), ISA Draft guidelines for the preparation of environmental impact statements (ISBA/27/C/5), ISA Draft guidelines for the preparation of environmental Management and Monitoring Plans (ISBA/27/C/6 and Corr.1), and ISA Draft standard and guidelines on the development and application of environmental management systems (ISBA/27/C/7).

### 4.5.1 E5 GEN2 Management of the material topic

The organisation should report on the management of the material topic according to requirements under GEN2 (a) to (e), in section 3.2.1. Specifically for this material topic, the organisation should also report on the following:

- a) Whether the policies and commitments to protect ecosystems and biodiversity, are informed by, and/or aligned with the Kunming-Montreal Global Biodiversity Framework, and/or other biodiversity and ecosystem-related national policies and legislation.

- b) Report the goals, targets, base year, and indicators used to evaluate progress, including how the targets have been defined.
- c) Describe actions taken to manage the direct drivers of adverse impacts to ecosystems and biodiversity reported following the mitigation hierarchy, including:
  - i. actions to avoid negative impacts;
  - ii. actions to minimize negative impacts;
  - iii. actions to restore/rehabilitate ecosystems;
  - iv. actions to offset residual negative impacts;
  - v. transformative actions, including additional conservation actions.
- d) The percentage of contract/licence area(s) with management plans that describe how the actions taken are implemented.
- e) Describe the Impact Reference Zone(s) and Preservation Reference Zone(s) established by the organisation in their contract/licence area(s).
- f) Contextual information necessary to understand how the data has been compiled, such as any standards, methodologies, and assumptions used.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 101: Biodiversity 2024](#)

For e, the reference zones only apply to the Area.

**Reference disclosures:** GRI 101: Biodiversity 2024 (101-1 and 101-2) and GRI 3: Material Topics 2021.

## 4.5.2 E5A. Ecosystem integrity

The reporting organisation should report the following information:

- a) For each contract/licence area, report the following information on affected or potentially affected ecosystems for the baseline and the current reporting period:
  - i. the ecosystem types;
  - ii. the ecosystem size (in m<sup>2</sup> or km<sup>2</sup>);
  - iii. the ecosystem condition.
- b) For each contract/licence area, describe the state of ecosystems integrity at local and regional scales using the best available scientific information.
- c) For each contract/licence area, describe how ecosystems integrity is or may be impacted at local and regional scales.
- d) For each contract/licence area, describe any measures that have been implemented to minimize disruption of ecosystem integrity at local and regional scales.

**Guidance:**

For general guidance regarding disclosures reference is made to: [TNFD LEAP approach](#), [the TNFD recommendations](#) and [ISA Draft guidelines for the establishment of baseline environmental data \(ISBA/27/C/11\)](#).

For a, report on both pelagic and benthic ecosystem types.

For b and c, it is recommended to provide a suite of measures that can reflect the ecosystem integrity of relevant habitat types. This should include biological, geochemical, and ecosystem functioning variables, such as:

- overall status of species biodiversity in relevant habitats;
- overall status of ecological processes and ecosystem functioning in relevant habitats;
- any indicator species and what they may reveal about the ecosystem health.

For c, impacts can also include large-scale impacts from disruption of connectivity.

**Reference disclosures:** TNFD LEAP approach, the TNFD Draft sector guidance - Oil and gas, and ISA Draft guidelines for the establishment of baseline environmental data (ISBA/27/C/11).

### 4.5.3 E5B. Ecosystem services

The reporting organisation should report the following information:

- a) For each contract/licence area, describe the ecosystem services and beneficiaries that are or could be affected by the organisation’s activities and the significance of the impacts.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 101: Biodiversity 2024](#) and [the TNFD LEAP approach](#)

Relevant ecosystem services can include carbon sequestration, nursery population and habitat maintenance, genetic material etc.

**Reference disclosures:** GRI 101: Biodiversity 2024 (101-8), GRI 14: Mining Sector 2024 (14.4.8), and the TNFD LEAP approach.

### 4.5.4 E5C. State of biodiversity

The reporting organisation should report the following information:

- a) Whether the organisation has a baseline assessment of the biodiversity in the contract/licence area(s).
- b) Describe the biodiversity within the contract/licence area(s) including the significant functional groups of species and their value in the ecosystem.
- c) The mapping and monitoring methods used and why, including their limitations regarding data gathering and any trends or significant changes in the composition or abundance of species groups and indicator species, if relevant.

- d) Contextual information necessary to understand how the data has been compiled, such as any standards, methodologies, and assumptions used, and if relevant, a reference or description of where the data comes from.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 101: Biodiversity 2024](#) and [ISA Draft guidelines for the establishment of baseline environmental data \(ISBA/27/C/11\)](#)

For b, the main groups of species could be identified by class, order, family, genus, or species name depending on the taxonomic level available in the data gathered.

For d, it includes how information about the species communities have been gathered, whether it is species abundance, biomass, community composition, functional groups, size groups etc., and where the information is gathered from.

**Reference disclosures:** GRI 101: Biodiversity 2024 (101-7), GRI 14: Mining Sector 2024 (14.4.7), and ISA Draft guidelines for the establishment of baseline environmental data (ISBA/27/C/11), ISA Draft standard and guidelines on the development and application of environmental management systems ([ISBA/27/C/7](#)).

#### 4.5.5 E5D. Sensitive and protected marine areas

The reporting organisation should report the following information:

- How the organisation has identified marine sensitive locations, marine protected areas, and other management areas such as Areas of Particular Environmental Interest (APEIs) relevant to its contract/licence area(s).
- The name and location of the relevant sensitive areas, marine protected areas, and Areas of Particular Environmental Interest (APEIs), and the distance to relevant contract/licence area(s).
- The geographic location (name and country or jurisdiction) of the port the mineralized material is transported to and their proximity to sensitive marine areas and marine protected area(s).

**Guidance:**

For general guidance regarding disclosures, reference is made to: [GRI 101: Biodiversity 2024](#)

For a, the indicative criteria can for example be uniqueness, rarity, special importance for the life history of species, importance for threatened, endangered or declining species or habitats, vulnerability, fragility, sensitivity, biodiversity, biological productivity, representativeness, etc. It can also be areas that are of particular importance to indigenous communities and other communities of interest. An overview of APEI in the Areas, reference is given to [ISA's regional environmental development plans](#) (REMPs).

For b, provide coordinates for the polygon of the contract area when reporting the geographic location. Otherwise, the organisation should describe the location through maps.

**Reference disclosures:** GRI 101: Biodiversity 2024 (101-5), GRI 14: Mining Sector 2024 (14.4.5), and ISA Draft regulations on exploitation of Mineral resources in the Area ([ISBA/29/C/CRP.1](#)).

#### 4.5.6 E5E. Direct drivers of biodiversity loss

The reporting organisation should report the following information:

- a) For each contract/licence area where invasive non-native species are or may be a direct driver of biodiversity loss, describe:
  - i. the activities that are responsible for the introduction of invasive alien species;
  - ii. measures to prevent unintentional introduction of invasive non-native species.
- b) For each contract/licence area where ocean/seabed use change is or may be a direct driver of biodiversity loss:
  - i. describe the activities responsible for seabed use change;
  - ii. for each contract/licence area, report the total area (km<sup>2</sup>) disturbed by the direct activities listed in (b-i)
  - iii. total volume of sediment removed/redistributed from the seabed, including measures taken to reduce this volume.
  - iv. average depth of net sediment removal in the area mined.
- c) Describe the processes used to monitor the direct drivers of biodiversity loss throughout the organisation's activities and in its supply chain.
- d) Contextual information necessary to understand how the data has been compiled, such as any standards, methodologies, and assumptions used.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 101: Biodiversity 2024](#)

The drivers are based on the five main drivers of biodiversity loss, identified through the [IPBES global assessment](#). These are introduction of non-native species, changing use of sea and land, climate change (see Disclosure E1 and E4), pollution (see Disclosure E6D) and direct exploitation of organisms (not material for this industry). Although biodiversity loss from seabed use change has not occurred yet, it is important to report on as it is considered to be the major driver of biodiversity loss at the site of operation. This can change as knowledge and experience evolve.

For b-iii, the sediment removed/redistributed from the seabed refers to the sediment transported up to the vessel and released through the return water and associated material plume, and the sediment redistributed through the benthic sediment plume (See Disclosure E6B).

**Reference disclosures:** GRI 101: Biodiversity 2024 (101-6), GRI 14: Mining Sector 2024 (14.4.6), and IPBES.

#### 4.6 E6 – Water quality, pollution, and other disturbances

There may be returned water and associated materials to the water column and/or seabed during extraction of minerals from the seabed and/or after dewatering the minerals that has been lifted to the surface vessel, which could create disturbances in the form of plumes. These plumes will normally include sediment particles and priority substances, and occur close to the seabed and/or within different layers of the water column, depending on the technology being used and the location of the release. To reduce the ecological impact, the impact of these disturbances needs to be monitored and properly managed.



**Subtopics:**

- A. Water withdrawal
- B. Plume generation
- C. Plume composition
- D. Pollution and other disturbances

**Reference standards and legislative background:** GRI 303: Water and Effluents 2018.

#### 4.6.1 E6 GEN2 Management of the material topic

The organisation should report on the management of the material topic according to requirements under GEN2 (a) to (e), in section 3.2.1. Specifically for this material topic, the organisation should also report on the following:

- a) The regulatory discharge limits.
- b) A description of any voluntary minimum standards set by the organisation for the quality of the benthic sediment plume and the return water and associated material plume, and how these minimum standards were determined.
- c) Whether an environmental management and monitoring plan is in place for plume-related impacts.
- d) A list of improvements or initiatives made in the reporting year to reduce the impacts related to the benthic sediment plume and the return water and associated material plume.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 303: Water and Effluents 2018](#)

**Reference disclosures:** GRI 303: Water and Effluents 2018 (303-2).

#### 4.6.2 E6A. Water withdrawal

The reporting organisation should report the following information:

- a) Total water withdrawal from all areas (in megaliters), and a breakdown of this total by water categories:
  - i. freshwater;
  - ii. seawater;
- b) Total water withdrawal from all areas with water stress in megaliters.
- c) Contextual information necessary to understand how the data have been compiled, such as any standards, methodologies, and assumptions used.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 303: Water and Effluents 2018](#)

This disclosure includes water withdrawal for vessel operations and does not include seawater brought up with the mineralized material.

For a, freshwater ( $\leq 1,000$  mg/L total dissolved solids) includes water supplied by municipal water networks or other organisations (e.g. at port). Seawater is likely to be reported as the amount of seawater withdrawn to produce freshwater.

**Reference disclosures:** GRI 303: Water and Effluents 2018 (303-3).

### 4.6.3 E6B. Plume generation

The reporting organisation should report the following information:

- a) Source of the plumes
  - i. benthic sediment plume;
  - ii. return water and associated material plume.
- b) For the benthic sediment plume:
  - i. total area (km<sup>2</sup>) of the seabed significantly covered by the resettled benthic sediment plume, outside the directly mined area;
  - ii. measures taken to reduce the benthic sediment plume.
- c) For the return water and associated material plume:
  - i. total volume of return water discharged;
  - ii. total volume of sediment and other materials discharged;
  - iii. discharge depth;
  - iv. measures taken to reduce the return water and associated material plume.
- d) Contextual information necessary to understand how the data have been compiled, such as any standards, methodologies, and assumptions used.

**Guidance:**

For b, it is relevant to understand the deposition of sediment plumes outside the directly mined areas to further understand the impact outside the directly mined areas. What is defined as “significant” regarding resettled sediment on the seabed depend on factors such as the normal deposition rates in the area and needs to be defined with the help of relevant data from the contract/licence area. It is also relevant to report on the footprint of the plume, such as area (km<sup>2</sup>) covered and height (m) above the seafloor, as well as the particle size distribution etc.

**Reference disclosures:** NA

#### 4.6.4 E6C. Plume composition

The reporting organisation should report the following information:

- a) For the benthic sediment plume:
  - i. characterization of the benthic sediment plume;
  - ii. priority substances of concern present, and their concentration;
  - iii. percentage of priority substances of concern (%) in the benthic sediment plume.
- b) For the return water and associated material plume:
  - i. characterization of the return water and associated material plume;
  - ii. priority substances of concern present and their concentration;
  - iii. percentage of priority substances of concern (%) in the return water and associated material plume.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 303: Water and Effluents 2018](#)

For a-i and b-i, characterization of the plumes includes estimates of percentages of water, sediment, and other materials (e.g. residual minerals) that make up the plume. For the return water and associated material plume, the disclosure of the temperature at the discharge point compared with the ambient [natural] temperature is also relevant.

Priority substances of concern are those that cause irreversible damage to the waterbody, ecosystem, or human health. The organisation should disclose how these substances were defined, and any international standard, authoritative list, or criteria used.

**Reference disclosures:** GRI 303: Water and Effluents 2018 (303-4)

#### 4.6.5 E6D. Pollution and other disturbances

The organisation should report the following:

- a) A list of pollution and disturbances generated by the organisation (e.g., light pollution, noise pollution, toxicity, other relevant pollution, and other relevant disturbances).
- b) A description of how the pollution affects the ecosystem and species groups.
- c) Actions the organisation has taken to mitigate and reduce pollution and other disturbances.
- d) Where residual materials are transferred to the seabed, include:
  - i. the location where the residual materials are being transferred and the reason for choosing this area;
  - ii. amount/volume of residual materials transferred, and the area of the seabed covered (in m<sup>2</sup> or km<sup>2</sup>);
  - iii. particle size of the transferred masses (either an estimate of the average size or a breakdown into size categories);

- iv. whether there are any residual priority substances of concern left in the transferred residual material, and if so, which substances and their concentration.
- v. results from monitoring of returned residual materials at the seabed, such as positive or negative impact on biota (e.g. smothering, recolonization, or creation of new habitat), additional spread of transferred residual material, changing ecosystem functions, equipment left in the area etc.

**Guidance:**

For c, describe which standards and/or methodologies were used to mitigate and reduce pollution and other disturbances. Describe how the organisation contributes to improving the methodology and technology used for monitoring and mitigating pollution and other disturbances, by for example investing in new technology and/or testing new enabling technology and equipment and/or participating/investing in research programs.

For d, the metric applies to the extraction of polymetallic sulphides and cobalt-rich ferromanganese crusts.

For d-i, environmental mapping of the ecosystem health, biodiversity, and species interactions in the area are factors that should be included in the reasoning for choosing the area.

For d-iv, priority substances of concern are those that cause irreversible damage to the waterbody, ecosystem, or human health. The organisation should disclose how these substances were defined, and any international standard, authoritative list, or criteria used.

For c-iii, if it consists of sand and larger rocks, for example, a separation into two categories will be more accurate than giving an average size.

**Reference disclosures:** NA

## 4.7 E7 – Waste and circular economy

The United Nations recognizes the role of responsible consumption and production in achieving the Sustainable Development Goals. Circular economy is important to reduce global resource pressure, waste generation, and reduce GHG emissions. While beyond the scope of this handbook, recycling metals derived from marine minerals is important to help build the recycling metal stocks needed for the energy transition and reduce the pressure from mining both onshore and offshore. Steps taken by companies to advance a circular economy are recommended to be disclosed. For the narrower scope of this handbook, a company can report on their approach to reducing waste and on the waste management solutions in place to ensure waste from offshore operations is adequately handled.

**Subtopics:**

- A. Waste generated
- B. Waste disposal

**Reference standards and legislative background:** GRI 306: Waste 2020, GRI 14: Mining Sector 2024, and ESRS E5 (draft).

#### 4.7.1 E7 GEN2 Management of the material topic

The organisation should report on the management of the material topic according to requirements under GEN2 (a) to (e), in section 3.2.1. Specifically for this material topic, the organisation should also report on the following:

- a) The processes used to collect and monitor waste-related data.
- b) Actions, including circularity measures, taken to prevent waste generation, and how it manages significant impacts from waste generated, in:
  - i. the organisations own activities;
  - ii. the upstream and downstream value chain, if relevant.
- c) Whether the waste generated by the organisation in its own activities is managed by a third party.
- d) Whether they have a system to trace the marine minerals in the value chain, and thereby contribute to increased recirculation of the minerals.

**Guidance:**

For general guidance regarding disclosures reference is made to [GRI 306: Waste 2020](#) and [ESRS E5](#)

The objective of this Disclosure Content is to provide an understanding of the key actions taken and/or planned to address material impacts, risks, and opportunities, and where applicable achieve the objectives and targets of related policies.

**Reference disclosures:** GRI 306: Waste 2020 (306-2) & ESRS E5-5.

#### 4.7.2 E7A. Waste generated

The reporting organisation should report the following information:

- a) Total weight of hazardous and non-hazardous waste generated in metric tons, and preferably a breakdown of waste types for each category (in metric tons).
- b) Contextual information necessary to understand the data and how the data has been compiled.

**Guidance:**

For general guidance regarding disclosures reference is made to [GRI 306: Waste 2020](#), [ESRS E5](#), & [GRI 14: Mining Sector 2024](#)

For a, exclude effluent, unless required by national legislation to be reported under total waste and use 1000 kilograms as the measure for a metric ton.

**Reference disclosures:** GRI 306: Waste 2020 (306-3), ESRS E5-5, & GRI 14: Mining Sector 2024 (14.5.4).

#### 4.7.3 E7B. Waste disposal

The reporting organisation should report the following information:

- a) Total weight of waste directed to disposal in metric tons, and a breakdown of this total by composition of the waste.
- b) Total weight of hazardous waste directed to disposal in metric tons, and a breakdown of treatment methods used for hazardous and non-hazardous waste.
- c) Contextual information necessary to understand the data and how the data has been compiled.

**Guidance:**

For general guidance regarding disclosures reference is made to [GRI 306: Waste 2020](#), [ESRS E5](#), & [GRI 14: Mining Sector 2024](#)

For a and b, exclude effluent, unless required by national legislation to be reported under total waste and use 1000 kilograms as the measure for a metric ton.

For b, the treatment methods can be broken down into e.g., incineration on vessel (with and without energy recovery), landfill, recycled, re-purposed, other disposal operations (specify). Emissions from incineration of waste should be covered under Disclosure E1A.

**Reference disclosures:** GRI 306: Waste 2020 (306-5), ESRS E5-5, & GRI 14: Mining Sector 2024 (14.5.6).

## 4.8 E8 – Mine closure

Appropriate mine closure is an integral part of mine life cycle management. In many jurisdictions, mining companies are required to plan for closure before entering production and the same is true for marine minerals. Development of closure plans, including strategies and post-closure monitoring of environmental effects, is necessary to ensure the appropriate management of the affected areas post closure. Appropriate plans should also be developed for temporary suspension of mining activities.

**Subtopics:**

- A. Mine closure plan
- B. Post-closure monitoring

**Reference standards and legislative background:** TSM Mine Closure Framework, GRI 14: Mining Sector 2024 and ISA Draft regulations on exploitation of mineral resources in the Area (ISBA/29/C/CRP.1).

### 4.8.1 E8 GEN2 Management of the material topic

The organisation should report on the management of the material topic according to requirements under GEN2 (a) to (e) in section 3.2.1.

### 4.8.2 E8A. Mine closure plan

The reporting organisation should report the following information:

- a) For each contract/licence area, report whether it:

- i. has a closure plan in place;
  - ii. is undergoing closure activities;
  - iii. has been closed.
- b) For each closure plan:
- i. report whether the plan has been approved by relevant authorities;
  - ii. report the dates of the most recent and next reviews of the plan.
- c) For each contract area, report the estimated life of the mine (LOM).

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 14: Mining Sector 2024](#), [Draft regulations on exploitation of Mineral resources in the Area \(ISBA/29/C/CRP.1\)](#), and [TSM](#)

The Mine closure plan shall be in accordance with Good Industry Practice, Best Environmental Practices, Best Available Techniques, and the relevant guidelines.

For a, it should also be reported if there is a temporary suspension of extraction activities and if a relevant plan is in place for this.

For c, the definition of life of mine (LOM) used by the organisation should be the same as the definition used in its consolidated financial statements or equivalent documents.

**Reference disclosures:** TSM Mine Closure framework, GRI 14: Mining Sector 2024 (14.8.4, 14.8.5, & 14.8.6), and [Draft regulations on exploitation of Mineral resources in the Area \(ISBA/29/C/CRP.1\)](#) - Part VI.

### 4.8.3 E8B. Post-closure monitoring

The reporting organisation should report the following information:

- a) For each contract area, report on the post-closure monitoring programs implemented.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 14: Mining Sector 2024](#), [Draft regulations on exploitation of Mineral resources in the Area \(ISBA/29/C/CRP.1\)](#), and [TSM](#).

An Environmental Management and Monitoring Plan should be prepared following Annex VII in the Draft regulations on exploitation of Mineral resources in the Area. The organisation should also conduct a final performance assessment report.

For a, it should also be reported if there is a temporary suspension of extraction activities, and if a relevant monitoring program is in place for this.

**Reference disclosures:** TSM Mine Closure framework & GRI 14: Mining Sector 2024 (14.8.8), [Draft regulations on exploitation of mineral resources in the Area \(ISBA/29/C/CRP.1\)](#) – Annex VI and Part VI Regulation 61, Draft guidelines for the preparation of environmental Management and Monitoring Plans ([ISBA/27/C/6](#) and [Corr.1](#))

## 5 DISCLOSURE OF SOCIAL TOPICS

The social topics that were identified as material for the marine minerals industry are presented in the list below. Each material topic is further described in the following sub sections, and the disclosure metrics presented.

### Material topics:

1. Stakeholder engagement
2. Capacity Building
3. Occupational health and safety
4. Labour rights
5. Human Rights
6. Diversity and equal opportunity

### 5.1 S1 – Stakeholder engagement

Stakeholder engagement helps organisations to proactively consider the needs and concerns of people, interest groups or others who have a stake in their organisation. This can ensure trust, confidence, and buy-in for the organisation's key activities. When done well, stakeholder engagement can mitigate potential risks and conflicts with stakeholder groups and their rights. Stakeholders typically include workforce (internal stakeholders), as well as communities of interest and interest groups, non-governmental organisations (NGO), regulators, and investors (external stakeholders). In The Area, the offshore marine minerals industry has a complex stakeholder landscape as activities takes place far from shore, away from human settlements and local communities. Developments in The Area, which is considered the common heritage of mankind, should include focus on the benefit of humankind, and stakeholders can be a broad spectrum of global stakeholders. For the offshore activities within EEZ of a country, national and local stakeholders and interests become more relevant. In this document these stakeholder groups are referred to as "communities of interest" instead of local communities, which can refer to local, regional, or national stakeholders, cultural stakeholders, or even global stakeholders: This complex stakeholder landscape must be taken into account during stakeholder engagement. It is important to identify potential negative impacts on stakeholders and establish mitigating mechanisms, as well as planning for potential positive impacts such as economic ones derived from investments (including infrastructure) and services supported by an organisation.

### Subtopics:

- A. How stakeholders are identified
- B. How stakeholders are approached, and meaningful engagement is sought
- C. Operations with stakeholder engagement and impact assessments
- D. Operations with significant actual and potential impacts on communities of interest
- E. Grievance mechanisms

**Reference standards and legislative background:** GRI 2: General Disclosures 2021, GRI 411: Rights of Indigenous Peoples 2016, GRI 413: Local Communities 2016, and GRI 14: Mining Sector 2024, OECD Guidelines for Multilateral Enterprises on Responsible Business Conduct (2023), OECD Due Diligence Guidance for Meaningful Stakeholder Engagement in the Extractive Sector (2017), and Equator Principles 2,5 and 6. ILO Declaration on Fundamental Principles and Rights at work and related ILO conventions, including on freedom of association and collective bargaining, anti-discrimination and equal treatment. ISA Draft regulations on exploitation of Mineral resources in the





Area (ISBA/29/C/CRP.1), and relevant standards; e.g. ISA's Draft standard and guidelines for the environmental impact assessment process ([IBSA/27/C/4](#)).

### 5.1.1 S1 GEN2 Management of the material topic

The organisation should report on the management of the material topic according to requirements under GEN2 (a) to (e), in section 3.2.1.

### 5.1.2 S1A. How stakeholders are identified

The reporting organisation should report the following information:

- a) Describe the approach to identifying international stakeholders, communities of interest and other stakeholders.
- b) List the stakeholders and communities of interest that the organisation has identified as relevant for the entity's operations, specifying:
  - i. why they were identified as relevant;
  - ii. if any, what marginalized or vulnerable groups were identified within these communities and why.

**Guidance:**

For a, key differences in the approach to identifying stakeholder groups between different jurisdictional areas (e.g. The Area and the exclusive economic zone of a nation), or otherwise very different operational areas in the organisations portfolio of contracts/licences, should be highlighted.

For general guidance regarding disclosures reference is made to: [GRI 2: General Disclosures 2021](#), [GRI 411: Rights of Indigenous Peoples 2016](#), [GRI 413: Local Communities 2016](#), and ISA's Draft standard and guidelines for the environmental impact assessment process ([IBSA/27/C/4](#)).

**Reference disclosures:** GRI 2: General Disclosures 2021 (2-12), GRI 413: Local Communities 2016 (413-1), GRI 203: Indirect Economic Impacts 2016, GRI 411: and Rights of Indigenous Peoples 2016 (411-1)

### 5.1.3 S1B. How stakeholders are approached, and meaningful engagement is sought

The reporting organisation should report the following information:

- a) The stakeholder engagement approach broken down per type of stakeholder group including:
  - i. way of engagement (e.g. newsletters, email, meetings, conferences etc.);
  - ii. frequency;
  - iii. topics addressed.
- b) Whether stakeholder engagement activities take place at the central organisational level or at a lower level, such as at the site or project level.
- c) The resources (e.g., financial or human resources) allocated to stakeholder engagement.
- d) Describe how the organisation seeks meaningful engagement with stakeholders, including:

- i. how potential barriers to stakeholder engagement (e.g., language and cultural differences, gender and power imbalances, divisions within a community or group) are considered.
  - ii. how stakeholders are provided with information that is understandable and accessible through appropriate communication channels.
  - iii. if applicable, how it engages with marginalized or vulnerable groups (e.g., whether it takes specific approaches and gives special attention to potential barriers), including ensuring safe and equitable gender participation.
- e) Describe how engagement with workers, suppliers, communities of interest, and other relevant stakeholders has informed start-up, exploration, minerals extraction, and mine closure planning and implementation, as relevant, per contract/licence area.
- f) How stakeholder feedback is recorded and integrated into decision-making, and how stakeholders are informed about the way in which their feedback has influenced decisions.

**Guidance:**

For d, (ii), consider accessibility and easy-to-understand information for all stakeholder groups.

For general guidance regarding disclosures reference is made to: [GRI 2: General Disclosures 2021](#), [Equator Principles](#), [OECD \(2017\)](#) and [TSM](#).

**Reference disclosures:** GRI 2: General Disclosures 2021 (2-29a-i), Equator Principle 5, and TSM Mine Closure framework

### 5.1.4 S1C. Operations with stakeholder engagement and impact assessments

The reporting organisation should report the following information:

- a) Describe the contents of the organisation's social performance management plan, such as:
  - i. participatory social and environmental impact assessments;
  - ii. stakeholder engagement plans based on stakeholder mapping;
  - iii. broad based stakeholder consultation committees and processes that include vulnerable groups;
  - iv. works councils, occupational health and safety committees and/or other worker representation bodies to deal with impacts;
  - v. public disclosure of results of environmental and social impact assessments, including gender impact assessment(s);
- b) Percentage of operations with implemented social performance management plan and social impact assessments.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 413: Local Communities 2016](#), and [Equator Principles](#).

**Reference disclosures:** GRI 413: Local Communities 2016 (413-1-2), Equator Principle 2, 5 and 6.

### 5.1.5 S1D. Operations with significant actual and potential impacts on communities of interest

The reporting organisation should report the following information:

- a) Operations with significant actual and potential impacts on communities of interest, including:
  - i. the location of the operations;
  - ii. the significant actual and potential impacts of operations.
  - iii. the definition used for “significant impact”
- b) List the location of operations where indigenous people hold claims or may be affected by (offshore) activities of the organisation.

**Guidance:**

[For b.](#) the definition of indigenous people from the ILO Convention 169, should be used. Indigenous peoples are generally identified as:

- tribal peoples in independent countries whose social, cultural and economic conditions distinguish them from other sections of the national community, and whose status is regulated wholly or partially by their own customs or traditions or by special laws or regulations;
- peoples in independent countries who are regarded as indigenous on account of their descent from the populations which inhabited the country, or a geographical region to which the country belongs, at the time of conquest or colonization or the establishment of present state boundaries and who, irrespective of their legal status, retain some or all of their own social, economic, cultural and political institutions.

For general guidance regarding disclosures reference is made to: GRI 413: Local Communities 2016 and [GRI 14: Mining Sector 2024](#).

**Reference disclosures:** GRI 413: Local Communities 2016 (413-2). GRI 14: Mining Sector 2024 (14-10-3, 14-11-3, and 14-12-3)

### 5.1.6 S1E. Grievance mechanisms

The reporting organisation should report the following information:

- a) Its approach to identify and address grievances, including existence of formal grievance mechanism that the organisation has established or participates in;
- b) Its commitments to provide for or cooperate in the remediation of negative impacts that the organisation identifies it has caused or contributed to;
- c) How the stakeholders who are the intended users of the grievance mechanisms are involved in the design, review, operation, and improvement of these mechanisms;
- d) The number and types of grievances from stakeholders identified by contract/licence area, including:

- i. the percentage of grievances that were addressed and resolved during the reporting period;
- ii. the percentage of the grievances that were resolved through remediation during the reporting period and how.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 2: General Disclosures 2021](#), [GRI 14: Mining Sector 2024](#) and [Equator Principles](#).

**Reference disclosures:** GRI 2: General Disclosures 2021 (2-25), GRI 14: Mining Sector 2024 (14.10.4) and Equator Principle 6.

## 5.2 S2 – Capacity building

The marine minerals industry is a new industry, in which offshore operations may take place at great depths. As a new industry, there will be many opportunities for capacity building in the fields of science, technology, and governance. Building competence and capacity are important topics for the industry to facilitate scale-up and ensure responsible operations. For operations in the seabed area beyond national jurisdiction (the Area), UNCLOS specifically mandates the ISA to design and implement mechanisms to build capacity for developing States, and this is for example implemented as an obligation for contractors in the Area. Such mechanisms are designed and implemented to promote and encourage the transfer of technology to developing States [(UNCLOS, Articles 144, 273, 274)] and ensure the expansion of opportunities for activities in the Area [(UNCLOS, Article 148)].

**Subtopics:**

- A. Advance scientific knowledge, technology, and governance capacity
- B. Training and scholarships

**Reference standards and legislative background:** GRI 404: Training and Education 2016, United Nations Convention on the Law of the Sea, and the Mining code.

### 5.2.1 S2 GEN2 Management of the material topic

The organisation should report on the management of the material topic according to requirements under GEN2 (a) to (e), in section 3.2.1.

### 5.2.2 S2A. Advance scientific knowledge, technology, and governance capacity

The reporting organisation should report the following information:

- a) Efforts, including investments, to advance marine minerals technology and performance (operational, safety, environmental or energy efficiency) or advance knowledge about the deep-sea environment, including partnerships with relevant and independent scientific institutions.
- b) Number of peer-reviewed and other publications on marine minerals technology/operations or the marine environment made publicly available that have received support from the organisation, for example in the form of financial support or in-kind contributions such as access, use of equipment, guidance or data, including:

- a. A breakdown of the number of publications in technical- and natural- science
- c) The organisation’s contribution to data sharing within and across different sectors, allowing for transparent communication and knowledge-sharing. This includes:
  - i. amount of open data
  - ii. initiatives to present the data in an understandable and easily accessible way.
- d) The organisations efforts to support governance of the marine minerals’ exploration and extraction.

**Guidance:**

For a, efforts should be reported as total investments but should also be broken down to provide understanding of key investments. All partnerships and the purpose of partnerships should be reported. Further key initiatives/projects or achievements should be highlighted.

For a, also include reporting of other professional organisation(s) the organisation is a member of, endorses, supports or is funding, etc. (for example, the number of accredited academic institutions the organisation is collaborating with, environmental / NGO initiatives funded, etc.). This could be identified at the global and local (e.g., sponsoring State) level.

For c, the amount of open data should be presented in total and what has been made available within the reporting year. The open data should be categorised to provide clarity on the type of data.

**Reference disclosures:** NA

### 5.2.3 S2B. Training and scholarships

The reporting organisation should report the following information:

- a) Number of trainings and scholarships supported by the organisation, broken down by type and subject matter area.

**Guidance:**

For a, training programs and scholarships should be relevant for capacity building in the marine minerals industry. This should be reflected in the categorisation of type and subject matter area.

**Reference disclosures:** GRI 404: Training and Education 2016 (404-2).

### 5.3 S3 – Occupational health and safety

The health and safety of workers engaged in offshore industries is important. Hazards include for example working with heavy machinery, potential for falling objects, long working hours, falling overboard, potential ship-to-ship transfers, and helicopter flights. The incidence of high-consequence work-related injury and other material subtopics below should be reported on for all employees; i.e. own workforce and workers who are not employees but whose work and/or workplace is controlled by the organisation.

**Subtopics:**

- A. Occupational health and safety system
- B. Hazard identification, risk assessment and incident investigation
- C. Worker participation, consultation, and communication on occupational health and safety
- D. Worker training on occupational health and safety
- E. Work-related incidents and injuries

**Reference standards and legislative background:** GRI 403: Occupational Health and Safety 2018, SASB Standard for Maritime Transportation, SASB Standards for Metals and Mining, ILO Declaration on Fundamental Principles and Rights at work and related ILO conventions on a safe and healthy working environment, including ILO Occupational Health and Safety Convention, No 155, 1981, ILO Occupational Health Services Convention 1985, No 161; ILO Safety and Health in Mines Convention, 1995, No 176, International Convention for the Safety of Life at Sea (SOLAS), 1974. Mining code. ISA Draft standard and guidelines for the safe management and operation of mining vessels and installations.

#### 5.3.1 S3 GEN2 Management of the material topic

The organisation should report on the management of the material topic according to requirements under GEN2 (a) to (e), in section 3.2.1.

#### 5.3.2 S3A. Occupational health and safety system

The reporting organisation should report the following information:

- a) A statement of whether an occupational health and safety management system has been implemented, including whether:
  - i. the system has been implemented because of legal requirements and, if so, a list of requirements;
  - ii. the system has been implemented based on recognized risk management and/or management system standards/guidelines and, if so, a list of the standards/guidelines.
- b) A description of the scope of workers, activities, and workplaces covered by the occupational health and safety management system, and an explanation of whether and, if so, why any workers, activities, or workplaces are not covered.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 403: Occupational Health and Safety 2018](#)

**Reference disclosures:** GRI 403: Occupational Health and Safety 2018 (403-1).

### 5.3.3 S3B. Hazard identification, risk assessment and incident investigation

The reporting organisation should report the following information broken down by own workforce and workers who are not employees but whose work and/or workplace is controlled by the organisation, if relevant:

- a) A description of the processes used to identify work-related hazards and assess risks on a routine and non-routine basis, and to apply the hierarchy of controls to eliminate hazards and minimize risks, including:
  - i. how the organisation ensures the quality of these processes, including the competency of persons who carry them out;
  - ii. how the results of these processes are used to evaluate and continually improve the occupational health and safety management system.
- b) A description of the processes for workers to report work-related hazards and hazardous situations, and an explanation of how workers are protected against reprisals (in such situations).
- c) The work-related hazards that pose a risk of high-consequence injury, including:
  - i. how these hazards have been determined;
  - ii. which of these hazards have caused or contributed to high-consequence injuries during the reporting period;
  - iii. actions taken or underway to eliminate these hazards and minimize risks using the hierarchy of controls.
- d) A description of the policies and processes for workers to remove themselves from work situations that they believe could cause injury or ill health, and an explanation of how workers are protected against reprisals (in such situations).
- e) A description of the processes used to investigate work-related incidents, including the processes to identify and evaluate hazards and risks relating to the incidents.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 403: Occupational Health and Safety 2018](#)

**Reference disclosures:** GRI 403: Occupational Health and Safety 2018 (403-2 and 403-9).

### 5.3.4 S3C. Worker participation, consultation, and communication on occupational health and safety

The reporting organisation should report the following information broken down by own workforce and workers who are not employees but whose work and/or workplace is controlled by the organisation, if relevant:

- a) A description of the processes for worker participation and consultation in the development, implementation, and evaluation of the occupational health and safety management system, and for providing access to and communicating relevant information on occupational health and safety to workers.
- b) Where formal joint management–worker health and safety committees exist, a description of their responsibilities, meeting frequency, decision-making authority, and if so, why such committees do not exist.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 403: Occupational Health and Safety 2018](#)

**Reference disclosures:** GRI 403: Occupational Health and Safety 2018 (403-4).

### 5.3.5 S3D. Worker training on occupational health and safety

The reporting organisation should report the following information broken down by own workforce and workers who are not employees but whose work and/or workplace is controlled by the organisation:

- a) A description of any occupational health and safety training provided to workers, including generic training as well as training on specific work-related hazards, hazardous activities, or hazardous situations.
- b) Average annual hours of health, safety, and emergency response training.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 403: Occupational Health and Safety 2018](#) and [SASB Metals and Mining Sustainability Accounting Standards](#)

Average hours of training shall be calculated as total qualifying training hours provided by the entity in the reporting year, divided by total number of employees.

**Reference disclosures:** GRI 403: Occupational Health and Safety 2018 (403-5), SASB Metals and Mining Sustainability Accounting Standards 5 (version 2023).

### 5.3.6 S3E. Work-related incidents and injuries

The reporting organisation should report the following information:

- a) Total number of employees and total number of contractors during the reporting period
- b) Lost Time Injury Frequency Rate (LTIFR) (common good practice, and also required by S&P Global's CSA)
  - i. The number and rate of fatalities as a result of work-related injury;
  - ii. The number and rate of high-consequence work-related injuries (excluding fatalities)
  - iii. Number of medical cases
  - iv. Number of first aid cases
  - v. Number and rate of near misses
- c) Contextual information necessary to understand how the data have been compiled, such as standards, methodologies, and assumptions used.



**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 403: Occupational Health and Safety 2018](#), [SASB standard for Marine Transportation](#) and [SASB standard for Metals and Mining](#).

For b, Lost Time Incident rate should be calculated including work related injuries and illness,

For c, a near miss is defined as an unplanned incident in which no property or environmental damage or personal injury occurred, but where damage or personal injury easily could have occurred but for a slight circumstantial shift.

**Reference disclosures:** GRI 403: Occupational Health and Safety 2018 (403-9), TR-MT-320a.1, EM-MM-320a.1.(3).

## 5.4 S4 – Labour rights

While the marine minerals industry can offer good work-opportunities, negative impacts can derive from challenging working conditions and ineffective labour-management consultations. Employment practices can vary in relation to remuneration, hours of work, training opportunities, social protection, and job security.

**Subtopics:**

- A. New employee hires and employee turnover
- B. Benefits provided to full-time employees that are not provided to temporary or part-time employees
- C. Parental leave
- D. Minimum notice periods regarding operational changes
- E. Average hours of training per year per employee
- F. Operations and suppliers at significant risk of incidents of Child labour
- G. Operations and suppliers at significant risk for incidents of forced or compulsory labour
- H. Operations in which the right to freedom of association and collective bargaining may be at risk
- I. Existence of functioning whistle blower system for workers

**Reference standards and legislative background:** GRI 2: General Disclosures 2021, GRI 401: Employment 2016, GRI 402: Labor/Management Relations 2016, GRI 404: Training and Education 2016, GRI 407: Freedom of Association and Collective Bargaining 2016, GRI 408: Child Labor 2016, and GRI 409: Forced or Compulsory Labor 2016, OECD Guidelines for Multilateral Enterprises on Responsible Business Conduct, Equator Principles, the ILO Declaration on Fundamental Principles and Rights at work and related ILO conventions on forced labour, compulsory labour, freedom of association and collective bargaining, including ILO Forced Labour Convention 1930, No 29; Abolition of Forced Labour Convention, 1957, No 105; Convention on Minimum Age 1973, No 139; Convention 182 on the Worst Forms of Child Labour 1999, No 182 and the ILO Maternity Protection Convention 2000, No 183.

### 5.4.1 S4 GEN2 Management of the material topic

The organisation should report on the management of the material topic according to requirements under GEN2 (a) to (e), in section 3.2.1.

### 5.4.2 S4A. New employee hires and employee turnover

The reporting organisation should report the following information:

- a) Total number and rate of new employee hires during the reporting period, by age, group, gender, and region.
- b) Total number and rate of employee turnover during the reporting period, by age, group, gender, and region.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 401: Employment 2016](#)

**Reference disclosures:** GRI 401: Employment 2016 (401-1).

### 5.4.3 S4B. Employee benefits provided

The reporting organisation should report the following information broken down by full time employees and temporary or part-time workers:

- a) Standard employee benefits provided, by significant locations of operation, including:
  - i. life insurance;
  - ii. health care;
  - iii. disability and invalidity coverage;
  - iv. parental leave;
  - v. retirement provisions;
  - vi. stock ownership;
  - vii. others.
- b) The definition used for 'significant locations of operation'.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 401: Employment 2016](#)

[For b, in this offshore context significant locations of operations can be defined as locations where it can be expected that employee benefits are similar, for example within the EEZ of specific countries, regional locations in The area or similar.](#)

**Reference disclosures:** GRI 401: Employment 2016 (401-2).

#### 5.4.4 S4C. Parental leave

The reporting organisation should report the following information:

- a) Total number of employees that were entitled to parental leave, by gender.
- b) Total number of employees that took parental leave, by gender.
- c) Total number of employees that returned to work in the reporting period after parental leave ended, by gender.
- d) Total number of employees that were still employed 12 months after their return to work after parental leave, by gender.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 401: Employment 2016](#)

**Reference disclosures:** GRI 401: Employment 2016 (401-3).

#### 5.4.5 S4D. Minimum notice periods regarding operational changes

The reporting organisation should report the following information:

- a) Minimum number of weeks' notice typically provided to employees and their representatives prior to the implementation of significant operational changes that could substantially affect them.
- b) Whether the notice period and provisions for consultation and negotiation are specified in collective agreements, if such agreements exist.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 402: Labor/Management Relations 2016](#)

**Reference disclosures:** GRI 402: Labor/Management Relations 2016 (402-1).

#### 5.4.6 S4E. Average hours of training per year per employee

The reporting organisation should report the following information:

- a) Average hours of training that the organisation's employees have undertaken during the reporting period, by:
  - i. gender;
  - ii. employee category.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 404: Training and Education 2016](#)

**Reference disclosures:** GRI 404: Training and Education 2016 (404-1).

#### 5.4.7 S4F. Operations at significant risk of incidents of child labour

The reporting organisation should report the following information:

- a) Operations and work done by contractors/suppliers in the contract/licence area considered to have significant risk for incidents of:
  - i. child labour;
  - ii. young workers exposed to hazardous work
- b) Measures taken by the organisation in the reporting period intended to contribute to the effective abolition of child labour

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 408: Child Labor 2016](#)

**Reference disclosures:** GRI 408: Child Labor 2016 (408-1).

#### 5.4.8 S4G. Operations and suppliers at significant risk for incidents of forced or compulsory labour

The reporting organisation should report the following information:

- a) Operations and work done by contractors/suppliers in the contract/licence area considered to have significant risk for incidents of forced or compulsory labour either in terms of:
  - i. type of operation;
  - ii. countries or other geographic areas with operations considered at risk.
- b) Measures taken by the organisation in the reporting period intended to contribute to the elimination of all forms of forced or compulsory labour.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 409: Forced or Compulsory Labor 2016](#)

**Reference disclosures:** GRI 409: Forced or Compulsory Labor 2016 (409-1).

#### 5.4.9 S4H. Operations in which the right to freedom of association and collective bargaining may be at risk

The reporting organisation should report the following information:

- a) Operations, including work done by contractors/suppliers in the contract/licence area considered to have significant risk with respect to violations of workers' rights to exercise freedom of association or collective bargaining either in terms of:
  - i. type of operation;

- ii. countries or other geographic areas with operations considered at risk.
- b) Measures taken by the organisation in the reporting period intended to support rights to exercise freedom of association and collective bargaining.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 407: Freedom of Association and Collective Bargaining 2016](#)

**Reference disclosures:** GRI 407: Freedom of Association and Collective Bargaining 2016 (407-1).

#### 5.4.10 S4I. Existence of functioning whistle blower system for workers

The reporting organisation should report the following information:

- e) Existence of effective whistle blower system set up for workers in the organisation to seek advice and raise concerns about labour rights related issues in the organisations operations and business relationships.
- f) How concerns from workers are handled/followed up, including:
  - i. through what channel;
  - ii. by what department;
  - iii. how whistle blowers are protected (if anonymous or not).
- g) The number and types of concerns from workers by contract/licence area, including:
  - i. the percentage of concerns that were addressed and resolved during the reporting period.

**Guidance:**

For general guidance regarding disclosures reference is made to: GRI 2 and [Equator Principles](#). For general guidance regarding disclosures reference is made to: GRI 2: General Disclosures 2021 and [Equator Principles](#).

**Reference disclosures:** GRI 2: General Disclosures 2021 (2-26) and Equator Principle 5.

### 5.5 S5 – Human rights

Activities of an organisation can pose potential risks to human rights and as such it is important for organisations to understand, respect and enact to protect human rights.

**Subtopics:**

- A. Approach to human rights
- B. Training of security personnel in the organisation’s human rights policies and procedures
- C. Incidents of human rights violations

**Reference standards and legislative background:** United Nations, Guiding Principles on Business and Human Rights: Implementing the United Nations “Protect, Respect and Remedy” Framework, 2011. United Nations International Bill of Human Rights. International Labour Organization (ILO) Declaration on Fundamental Principles and Rights at Work. International Labour Organization (ILO) Convention 169, ‘Indigenous and Tribal Peoples Convention’, 1989. United Nations Declaration, ‘United Nations Declaration on the Rights of Indigenous Peoples’, 2007. International Labour Organization (ILO), Indigenous and Tribal Peoples Convention, 1989 (No. 169). United Nations, The Corporate Responsibility to Respect Human Rights: An Interpretive Guide, 2012. Equator Principles, 2020. OECD Guidelines for Multilateral Enterprises on Responsible Business Conduct (2023). OECD Due Diligence Guidance for Meaningful Stakeholder Engagement in the Extractive Sector (2017). GRI 2: General Disclosures 2021. GRI 410: Security Practices 2016. GRI 411: Rights of Indigenous Peoples 2016.

### 5.5.1 S5 GEN2 Management of the material topic

The organisation should report on the management of the material topic according to requirements under GEN2 (a) to (e), in section 3.2.1.

### 5.5.2 S5A. Approach to human rights

- a) How the organisation seeks to respect the human rights of all stakeholders engaged (e.g. their rights to privacy, freedom of expression, and peaceful assembly and protest).
- b) How the organisation works with business partners to engage with stakeholders in a meaningful way, including the expectations it places on business partners to respect the human rights of stakeholders during engagement.

**Guidance:**

Other elements of stakeholder engagement are covered under S1B and S1C.

For general guidance regarding disclosures reference is made to: GRI 2: General Disclosures 2021 and [Equator Principles](#).

**Reference disclosures:** GRI 2: General Disclosures 2021 (2-a-iii).

### 5.5.3 S5B. Training of security personnel in the organisation’s human rights policies and procedures

The reporting organisation should report the following information:

- a) Percentage of security personnel who have received formal training in the organisation’s human rights policies or specific procedures and their application to security.
- b) Whether training requirements also apply to third-party organisations providing security personnel.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 410: Security Practices 2016](#)

For (a) calculate the percentage using the total number of security personnel, whether they are employees of the organisation or employees of third-party organisations, and state whether employees of third-party organisations are included in the calculation.

**Reference disclosures:** GRI 410: Security Practices 2016 (410-1).

### 5.5.4 S5C. Incidents of human rights violations

The reporting organisation should report the following information:

- a) Total number of identified incidents of human rights violations, including those involving the rights of indigenous peoples (if relevant), during the reporting period.
- b) Status of the incidents and actions taken with reference to the following:
  - i. incident reviewed by the organisation;
  - ii. remediation plans being implemented;
  - iii. remediation plans that have been implemented, with results reviewed through routine internal management review processes;
  - iv. incident no longer subject to action.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 411: Rights of Indigenous Peoples 2016](#)

When compiling the information, the reporting organisation should include incidents involving:

- workers performing the organisation's activities
- external stakeholders and communities

**Reference disclosures:** GRI 411: Rights of Indigenous Peoples 2016 (411-1).

## 5.6 S6 - Diversity and equal opportunity

Providing equal opportunities for all workers enables the development of a diverse work force which can provide many benefits due to the incorporation of multiple viewpoints into decision-making and has been proven to increase an organisation's financial performance. This also aligns with UNCLOS provisions to include the participation of members of developing nations in the marine minerals industry. Discrimination can occur within organisations and the activities that they directly undertake as well as in their supply chain. Discrimination can occur based on age, gender, race, religion, nationality, sexual orientation, or worker status (e.g., seniority). Individuals and vulnerable groups often face a higher risk of discrimination.

**Subtopics:**



- A. Diversity of governance bodies and employees
- B. Remuneration and diversity
- C. Incidents of discrimination and corrective actions taken

**Reference standards and legislative background:** GRI 202: Market Presence 2016, GRI 405: Diversity and Equal Opportunity 2016, and GRI 406: Non-discrimination 2016, Equator Principles 6 and the ILO Declaration on Fundamental Principles and Rights at work and related ILO conventions on equality and discrimination, including the ILO Discrimination (Employment and Occupation Convention 1958, No 111 and the ILO Equal Remuneration Convention 1951, No 100. United Nations Convention on the Law of the Sea.

### 5.6.1 S6 GEN2 Management of the material topic

The organisation should report on the management of the material topic according to requirements under GEN2 (a) to (e), in section 3.2.1.

### 5.6.2 S6A. Diversity of governance bodies and employees

The reporting organisation should report the following information:

- a) Percentage of individuals within the organisation's governance bodies (e.g., Board of Directors) in each of the following diversity categories:
  - i. gender;
  - ii. age group: under 30 years old, 30-50 years old, over 50 years old;
  - iii. other indicators of diversity where relevant (such as developing nations and local communities, where relevant).
- b) Percentage of individuals within the organisation's senior management in each of the following diversity categories:
  - iv. gender;
  - v. age group: under 30 years old, 30-50 years old, over 50 years old;
  - vi. other indicators of diversity where relevant (such as developing nations and local communities, where relevant).
- c) Percentage of employees per employee category in each of the following diversity categories:
  - i. gender;
  - ii. age group: under 30 years old, 30-50 years old, over 50 years old;
  - iii. other indicators of diversity where relevant (such as developing nations and local communities, where relevant).



**Guidance:**

For b, senior management should be defined by the organisation, for example CEO + 2 levels.

For general guidance regarding disclosures reference is made to: [GRI 405: Diversity and Equal Opportunity 2016](#)

**Reference disclosures:** GRI 405: Diversity and Equal Opportunity 2016 (405-1).

### 5.6.3 S6B. Remuneration and diversity

The reporting organisation should report the following information:

- a) Ratio of the basic salary and remuneration of women to men for each employee category, by significant locations of operation.
- b) Does the entity disclose publicly its expectations in terms of diversity and equal opportunities in the workplace? If so, provide the relevant reference(s).
- c) The reporting entity's approach to identify and mitigate risks of discrimination in the workplace.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 405: Diversity and Equal Opportunity 2016](#)

**Reference disclosures:** GRI 405: Diversity and Equal Opportunity 2016 (405-2).

### 5.6.4 S5C. Incidents of discrimination and corrective actions taken

The reporting organisation should report the following information:

- a) Total number of incidents of discrimination during the reporting period.
- b) Status of the incidents and actions taken with reference to the following:
  - i. incident reviewed by the organisation;
  - ii. remediation plans being implemented;
  - iii. remediation plans that have been implemented, with results reviewed through routine internal management review processes;
  - iv. incidents no longer subject to action.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 406: Non-discrimination 2016](#) and [Equator Principles](#).

**Reference disclosures:** GRI 406: Non-discrimination 2016 (406-1) and Equator Principle 6.

## 6 DISCLOSURE OF GOVERNANCE TOPICS

The governance topics that were identified as material for the marine minerals industry are presented in the list below. Each material topic is further described in the following sub sections, and the disclosure metrics presented.

### Material topics:

1. Economic performance
2. Licensing fees, taxes, and royalties
3. Anti-corruption
4. Public policy
5. Compliance with laws and regulations
6. Critical incident management
7. Supply chain management

### 6.1 G1 – Economic performance

A sustainable economic performance is material to all organisations. Economic performance also provides a context to numbers and volumes disclosed under other material topics.

#### Subtopics:

- A. Direct economic value generated and distributed
- B. Financial assistance received from governments

**Reference standards and legislative background:** GRI 201: Economic Performance 2016

#### 6.1.1 G1 GEN2 Management of the material topic

The organisation should report on the management of the material topic according to requirements under GEN2 (a) to (e), in section 3.2.1.

#### 6.1.2 G1A. Direct economic value generated and distributed

The reporting organisation should report the following information:

- a) Direct economic value generated and distributed on an accruals basis, including the basic components for the organisation's global operations as listed below:
  - i. direct economic value generated: revenues;
  - ii. economic value distributed: operating costs, employee wages and benefits, payments to providers of capital, payments (fees, royalties and taxes) to governments and regulators, and community investments;
  - iii. economic value retained: 'direct economic value generated' less 'economic value distributed'.

- b) Report direct economic value generated, distributed and retained separately at contract/licence area levels.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 201: Economic Performance 2016](#)

**Reference disclosures:** GRI 201: Economic Performance 2016 (201-1).

### 6.1.3 G1B. Financial assistance received from governments

The reporting organisation should report the following information:

- a) Monetary value of financial assistance received by the organisation from any government during the reporting period, in total and per contract/licencing area including:
- i. tax relief and tax credits;
  - ii. subsidies;
  - iii. investment grants, research and development grants, and other relevant types of grants;
  - iv. financial assistance from Export Credit Agencies (ECAs);
  - v. financial incentives;
  - vi. other financial benefits received or receivable from any government for any operation.
- b) Whether, and the extent to which, any government or sponsoring state is present in the shareholding structure.
- c) For state owned organisation (SOEs); report the financial relationship between the government and the SOE.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 201: Economic Performance 2016](#)

**Reference disclosures:** GRI 201: Economic Performance 2016 (201-4) and GRI 14: Mining Sector 2024 (14.23.3).

## 6.2 G2 – Licensing fees, taxes and royalties

The marine minerals sector can create significant value with respect to nations, sponsoring countries, and organisations, by means of various revenue streams to governments and regulators, derived from mineral extraction activities. These payments include contracts/licensing fees, taxes and royalties, but may also include other payment(s) depending on final regulations and agreements. Promoting transparency about payments to governments and regulators is considered best practise and can foster stakeholder trust.

**Subtopics:**

- A. Approach to tax, fees, and royalties
- B. Reporting by contract area/tax jurisdiction

**Reference standards and legislative background:** GRI 201: Economic Performance 2016, GRI 207: Tax 2019, GRI 14: Mining Sector 2024, and GRI 11: Oil and Gas 2021. OECD Guidelines for Multinational Enterprises on Responsible Business Conduct<sup>2</sup>. ISA Draft regulations on exploitation of Mineral resources in the Area (ISBA/29/C/CRP.1).

## 6.2.1 G2 GEN2 Management of the material topic

The organisation should report on the management of the material topic according to requirements under GEN2 (a) to (e), in section 3.2.1.

## 6.2.2 G2A. Approach to tax, fees, and royalties

The reporting organisation should report the following information:

- a) A description of the approach to tax, including fees and royalties, including:
  - i. whether the organisation has a tax strategy and, if so, a link to this strategy if publicly available;
  - ii. the governance body or executive-level position(s) within the organisation that formally reviews and approves the tax strategy, the frequency of this review, and the executive-level position(s) accountable for compliance with the tax strategy;
  - iii. how the approach to tax is linked to the business and sustainable development strategies of the organisation;
  - iv. *the approach to tax risks, including how risks are identified, managed, and monitored;*
  - v. *how compliance with the tax governance and control framework is evaluated.*
- b) *A description of the mechanisms for reporting concerns about unethical or unlawful behaviour and the organisation's integrity in relation to tax.*
- c) *A description of the assurance process for disclosures on tax and, if applicable, a reference to the assurance report, statement, or opinion.*

### Guidance:

For general guidance regarding disclosures, reference is made to: [GRI 207: Tax 2019](#)

When referring to tax in the reporting requirements under G2A, this always includes fees and royalties.

**Reference disclosures:** GRI 207: Tax 2019 (207-1 and 207-2).

<sup>2</sup> OECD (2023), *OECD Guidelines for Multinational Enterprises on Responsible Business Conduct*, OECD Publishing, Paris, <https://doi.org/10.1787/81f92357-en>.

### 6.2.3 G2B. Reporting by contract area/tax jurisdiction

The reporting organisation should report the following information:

- a) All tax jurisdictions where the entities included in the organisation's audited consolidated financial statements, or in the financial information filed on public record, are resident for tax purposes.
- b) For each tax jurisdiction reported in a), report:
  - i. names of the entities;
  - ii. primary activities of each entity.
- c) The time period covered by the information reported.
- d) *Report a breakdown of the contract/licensing fees, taxes and royalties levied at the contract/licence area level, if applicable:*
  - i. *sponsoring states management fees;*
  - ii. *royalties;*
  - iii. *licence fees, contract fees, entry fees, and other considerations for licences, contracts, or concessions;*
  - iv. *any other significant payments and material benefits to the government or regulator.*
- e) *Report the value of any thresholds that have been applied and any other contextual information necessary to understand how the contract/licence area-level licensing/contracting fees, taxes and royalties reported have been compiled.*

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 207: Tax 2019](#)

When referring to tax in the reporting requirements under G2B, this always includes fees and royalties.

**Reference disclosures:** GRI 207: Tax 2019 (207-4), GRI 14: Mining Sector 2024 (14.23.7), and GRI 11: Oil and Gas 2021 (11.21.7).

## 6.3 G3 – Anti-corruption

Anti-corruption refers to how an organisation manages the potential of being involved with corruption. Corruption is practices such as bribery, facilitation payments, fraud, extortion, collusion, money laundering, or the offer or receipt of an inducement to do something dishonest or illegal. Corruption can occur throughout the value chain, irrespective of where the operations take place, sponsoring country(ies) or the countries' economic development, location, and political context.

### Subtopics:

- A. Operations assessed for risks to corruption
- B. Communication and training about anti-corruption policies and procedures
- C. Confirmed incidents of corruption and actions taken
- D. Contract/licence transparency and beneficial owners

**Reference standards and legislative background:** GRI 205: Anti-corruption 2016, GRI 14: Mining Sector 2024, [EITI standard 2023](#), [OECD Guidelines for Multinational Enterprises \(2023\)](#)<sup>3</sup>, [OECD Anti-Bribery Convention](#), and [OECD 2021 Recommendations on Anti Bribery](#).

### 6.3.1 G3 GEN2 Management of the material topic

The organisation should report on the management of the material topic according to requirements under GEN2 (a) to (e), in section 3.2.1. Management of corruption impact and risk in the supply chain, is addressed under Supply Chain Management in section 6.7.

### 6.3.2 G3A. Operations assessed for risks to corruption

The reporting organisation should report the following information:

- a) Total number and percentage of contract/licence areas assessed for risks related to corruption.
- b) Significant risks related to corruption identified through the risk assessment, and the criteria used for defining significant risks.

#### Guidance:

For general guidance regarding disclosures reference is made to: [GRI 205: Anti-corruption 2016](#)

For b, the risk can be reported per contract area or region of operations.

**Reference disclosures:** GRI 205: Anti-corruption 2016 (205-1).

<sup>3</sup> OECD (2023), *OECD Guidelines for Multinational Enterprises on Responsible Business Conduct*, OECD Publishing, Paris, <https://doi.org/10.1787/81f92357-en>.

### 6.3.3 G3B. Communication and training about anti-corruption policies and procedures

The reporting organisation should report the following information:

- a) Total number and percentage of governance body members and employees that the organisation's anti-corruption policies and procedures have been communicated to, broken down by employee category and corporate entity.
- b) *Total number and percentage of business partners that the organisation's anti-corruption policies and procedures have been communicated to, broken down by type of business partner and corporate entity. Describe if the organisation's anti-corruption policies and procedures have been communicated to other relevant persons or organisation.*
- c) Total number and percentage of governance body members and employees that have received training on anti-corruption, broken down by employee category and corporate entity.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 205: Anti-corruption 2016](#)

[For \(a\) and \(c\) the](#) total number and percentage of governance body members should be reported separately from employee categories.

For b, the information can be broken down by critical suppliers as defined under G7B (b).

**Reference disclosures:** GRI 205: Anti-corruption 2016 (205-2).

### 6.3.4 G3C. Confirmed incidents of corruption and actions taken

The reporting organisation should report the following information:

- a) Total number and nature of confirmed incidents of corruption, and a breakdown of the incidents.
- b) Public legal cases regarding corruption brought against the organisation or its employees during the reporting period and the outcomes of such cases.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 205: Anti-corruption 2016](#)

For a, the breakdown of the incidents could typically be;

1. number of incidents in which employees were dismissed or disciplined for corruption.
2. number of incidents when contracts with business partners were terminated or not renewed due to violations related to corruption

Incidents that cannot be categorised as proposed by the organisation, should be briefly described.

**Reference disclosures:** GRI 205: Anti-corruption 2016 (205-3).

### 6.3.5 G3D. Contract/licence transparency and beneficial owners

The reporting organisation should report the following information:

- a) Describe the approach to contract/licence area licence transparency, including:
  - i. whether contracts/licences are made publicly available and, if so, where they are published;
  - ii. if contracts/licences are not publicly available, the reason for this and actions taken to make them public in the future.
- b) List the organisation’s beneficial owners and explain how the organisation identifies the beneficial owners of direct business partners, including joint ventures and contractors.

**Guidance:**

The reporting requirements are based on expectations to supporting companies in the [EITI Standard 2023](#) (Section 5 and 7).

For a, the term ‘contract/licence’ in this context refers to any licence, lease, title, permit, contract or concession by which the government or regulator confers on a company(ies) or individual(s) rights to explore or extract mineral resources.

For b, this is primarily applicable for non-listed companies. Listed companies should disclose what is required by applicable regulations and listing requirements.

**Reference disclosures:** GRI 14: Mining Sector 2024 (14.22.5 and 14.22.6) and EITI Standard 2023.

## 6.4 G4 - Public policy

Organisations can influence public or private policy development through lobbying and advocacy at local, regional, and national levels. It can happen directly or through an intermediary organisation. While an organisation can encourage the development of public policy that benefits society, participation can also be associated with corruption, bribery, undue influence, or an imbalanced representation of the organisation’s interests. This reporting covers an organisation’s approach to public policy advocacy and the impacts that can result from the influence an organisation exerts, and provides an indication of to which extent the annual contributions are in line with the stated policies, goals or other public positions.

**Subtopics:**

- A. Political monetary contributions
- B. Lobby activities
- C. Association with memberships and organisations participating in public policy development and lobbying

**Reference standards and legislative background:** GRI 415: Public Policy 2016, GRI 2: General Disclosures 2021, and GRI 14: Mining Sector 2024, and GRI 11: Oil and Gas 2021. [UN Global Compact Guide for responsible corporate](#)





[engagement in climate policy](#) and [Global standard on responsible corporate climate lobbying](#), OECD Guidelines for Multinational Enterprises (2023)<sup>4</sup>

### 6.4.1 G4 GEN2 Management of the material topic

The organisation should report on the management of the material topic according to requirements under GEN2 (a) to (e), in section 3.2.1.

### 6.4.2 G4A. Political monetary contributions

The reporting organisation should report the following information:

- a) A description of the approach to political monetary contributions, if any, including:
  - i. the governance body or executive-level position(s) within the organisation that formally reviews and approves political monetary contributions.
- b) Total monetary value of financial and in-kind political contributions made directly and indirectly by the organisation by country and recipient/beneficiary.
- c) If applicable, how the monetary value of in-kind contributions was estimated.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 415: Public Policy 2016](#)

When compiling the information specified in a), the reporting organisation shall calculate financial political contributions in compliance with the national accounting rules they are subject to, where these exist.

**Reference disclosures:** GRI 415: Public Policy 2016 (415-1).

### 6.4.3 G4B. Association with organisations participating in public policy development and lobbying

The reporting organisation should report the following information:

- a) Report memberships and associations with organisations or committees - both nationally or internationally - that participate in public policy development and lobbying, in which it participates in a significant role.
- b) Report any differences between the organisation's stated policies, goals, or other public positions on significant issues and the positions of the representative associations or committees reported on in (a).

<sup>4</sup> OECD (2023), *OECD Guidelines for Multinational Enterprises on Responsible Business Conduct*, OECD Publishing, Paris, <https://doi.org/10.1787/81f92357-en>.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 2: General Disclosures 2021](#)

The organisation may have a significant role in an association or organisation when it holds a position in the governance body, participates in projects or committees, or provides substantive funding beyond routine membership fees. The role may also be significant when the organisation views its membership as strategic to influencing public policy development of organisation issues of importance to the organisation.

Nature and biodiversity should be covered as part of significant issues if this is part of focus of the organisation's participation in public policy development and lobbying.

**Reference disclosures:** GRI 2: General Disclosures 2021 (2-28), GRI 11: Oil and Gas 2021 (11.22.1), and GRI 14: Mining Sector 2024 (14.24.1)

## 6.5 G5 - Compliance with laws and regulations

The marine minerals industry may, as several other extractive industries, be subject to numerous **sustainability-related** regulations and an often rapidly changing regulatory environment. The regulatory landscape is challenging as the marine minerals industry may have to comply with international legislation like the Mining Code of the International Seabed Authority (ISA) and UNCLOS in the Area and/or with national regulations depending on the location of their activities. Changes to the legal and regulatory environment may result in material impacts on shareholder value. Non-compliance may over time affect the company's licence to operate. The reporting within this topic covers both the organisation's approach to the management of the legal and regulatory environment, the risk management process, as well as the annual occurrence of non-compliances. Together they provide an overview of the organisation's ability to manage this landscape.

**Subtopics:**

- A. Identification, assessment, and management of legal and regulatory risks
- B. Compliance with laws and regulations

**Reference standards and legislative background:** SASB Oil & Gas Exploration and Production Standard, and GRI 11: Oil and Gas 2021. The ISA Mining Code, UNCLOS and other relevant provisions of international law on the protection of the marine environment.

### 6.5.1 G5 GEN2 Management of the material topic

The organisation should report on the management of the material topic according to requirements under GEN2 (a) to (e), in section 3.2.1.

### 6.5.2 G5A. Identification, assessment, and management of legal and regulatory risks

The reporting organisation should report the following information:

- a) Describe the organisation’s processes for identifying and assessing the risks and opportunities it faces related to legislation, regulation, and/or rulemaking, (hereafter referred to collectively as “legal and regulatory environment”) related to environmental and social factors which are relevant to the organisation’s business.
- b) Describe the organisation’s processes for managing legal and regulatory risks related to environmental and social factors.
- c) Describe the significant legal and regulatory risks related to environmental and social factors, including how significant risks have been defined, and any actions taken to reduce the risks.

**Guidance:**

For general guidance regarding disclosures reference is made to: [SASB O&G Exploration and Production Standard](#)

Disclosure G5A:

- The regulatory environment of relevant environmental and social factors includes, but is not limited to, those related to greenhouse gas emissions, other air emissions, marine disturbances and pollution, biodiversity impacts, waste, social impacts, employee health and safety, business ethics and payments transparency, and natural resource governance.
- Existing, emerging, and known future risks and opportunities should be included at the local, regional, national and international level.
- Relevant risks include, but are not limited to, risk of increased compliance costs, risk of policy change or reversal, risk of loss of financial incentives (if relevant), risk to reputation due to the organisation's position and actions related to the legal and regulatory environment, risk that the legal and regulatory environment may not be aligned with long-term strategy, and risk of misalignment with the expectations of customers, investors, and other stakeholders.
- Relevant opportunities include, but are not limited to, improved financial conditions, access to new financial instruments or funds, reduced costs, improved community relations due to the organisation's position and actions related to the legal and regulatory environment, and other benefits due to alignment of the legal and regulatory environment with the organization's long-term strategy.

**Reference disclosures:** SASB O&G Exploration and Production EM-EP-530a.1 (modified).

### 6.5.3 G5B. Compliance with laws and regulations

The reporting organisation should report the following information:

- a) The total number of significant instances of non-compliance with laws and regulations during the reporting period, the criteria used for defining significance, and a breakdown of the total number by:
  - i. instances for which fines were incurred;
  - ii. instances for which non-monetary sanctions were incurred.
- b) The monetary value of fines for instances of non-compliance with laws and regulations that were paid during the reporting period, and a breakdown of this total by:
  - i. fines for instances of non-compliance with laws and regulations that occurred in the current reporting period;

- ii. fines for instances of non-compliance with laws and regulations that occurred in previous reporting periods.
- c) Describe the significant instances of non-compliance.

**Guidance:**

For general guidance regarding disclosures reference is made to: [GRI 2: General Disclosures 2021](#)

If there were no significant instances of non-compliance with laws and regulations or no fines were paid during the reporting period, a brief statement of this fact and the criteria used for defining significance, is sufficient.

**Reference disclosures:** GRI 2: General Disclosures 2021 (2-27).

## 6.6 G6 - Critical incident management

Critical incident management deals with the prevention and control of incidents that can lead to fatalities, injuries or ill health, environmental impacts, and damage to communities of interest and infrastructure. Critical incidents can cause damage to the organisation’s assets and have catastrophic consequences for workers, local communities, and the environment, for example, through air, sediments, water and coastal contamination, ecosystem and habitat degradation, and animal mortality. When managing critical incidents, it is important to include new and emerging risks related to security and safety, particularly in an emerging industry like the marine minerals industry.

**Subtopics:**

- A. Significant safety and security events related to business activity
- B. Significant spills to the environment

**Reference standards and legislative background:** GRI 303: Water and Effluents 2018, and GRI 11: Oil and Gas 2021.

### 6.6.1 G6 GEN2 Management of the material topic

The organisation should report on the management of the material topic according to requirements under GEN2 (a) to (e), in section 3.2.1.

**Guidance:**

When managing critical incidents, it is important to include new and emerging safety and security risks. Piracy related to transport of marine minerals has been identified as an emerging security risk in transition metals value chains (OECD 2023\*). Unlawful non-violent boarding is another type of critical incident that is relevant for the industry. Such actual or potential 3<sup>rd</sup> party-initiated security incidents should be identified, assessed, and mitigated as appropriate, together with other critical incidents.

Ship Specific Plans (SSP) can be developed and include guidance on how to prevent and critical incidents in accordance with the corporate policy.

\* OECD (2023), *OECD Guidelines for Multinational Enterprises on Responsible Business Conduct*, OECD Publishing, Paris, <https://doi.org/10.1787/81f92357-en>.

## 6.6.2 G6A. Significant safety and security events related to business activity

The reporting organisation should report the following information:

- a) Report the total number of (Tier 1 and Tier 2) safety and security events, and a breakdown of this total by business activity (e.g., exploration and testing, monitoring, mineral extraction, shipment, and mine closure).

### Guidance:

For a, Tier 1 and Tier 2 safety events are defined as follows:

- Tier 1 includes loss of primary containment (LOPC) events and other safety and security events with serious consequences, for example fatalities-, hospitalisation-, sick leave-, or evacuation of employees, contractors, sub-contractors or third party, damage greater or equal to 100 000 USD in direct cost, or discharges or releases as categorised in Table 1 – Material release threshold quantities, in API RP 754 (2021).
- Tier 2 includes LOPC events and other safety and security events with less serious consequences, for example in recordable injuries to employees, contractors, sub-contractors or third party, damage greater or equal to 2500 USD in direct cost, or discharges or releases as categorised in Table 1 – Material release threshold quantities, in API RP 754 (2021).

For general guidance regarding disclosures reference is made to: [GRI 11: Oil and Gas 2021](#)

**Reference disclosures:** GRI 11: Oil and Gas 2021 (11.8.3).

## 6.6.3 G6B. Significant spills to the environment

The reporting organisation should report the following information:

- a) Total number and total volume of significant spills, and how significance has been defined (for example due to resulting liabilities).
- b) The following additional information for each spill:
  - i. location of spill;
  - ii. volume of spill;
  - iii. substance/material spilled categorised by: fuel spills, other petroleum product spills, chemicals spills, spills of wastes, and other spills (to be specified by the organisation).

### Guidance:

For general guidance regarding disclosures reference is made to: [GRI 306: Waste 2020](#)

**Reference disclosures:** GRI 306: Waste 2020 (306-3).

## 6.7 G7 - Supply chain management

The supply chain represents the range of activities carried out by entities upstream of the organisation, which provide products or services that are used in offshore activities. Social and environmental impacts in the supply chain can be significant. An organisation's operations, products, or services may be directly linked to a negative impact by its business relationships. The potential opportunities and risks must be enhanced or mitigated through proper management of suppliers and sub-contractors.

### Subtopics:

- A. Proportion of spending on local suppliers
- B. Assessment of ESG risks of critical suppliers
- C. ESG impacts in the supply chain and actions taken

**Reference standards and legislative background:** GRI 2: General Disclosures 2021, GRI 204: Procurement Practices 2016, GRI 414: Supplier Social Assessment 2016, and GRI 308: Supplier Environmental Assessment 2016, GRI 14: Mining Sector 2024. OECD Guidelines for Multinational Enterprises on Responsible Business Conduct (2023), [OECD Due Diligence Guidance for Responsible Business Conduct \(2018\)](#). OECD Handbook on Environmental Due Diligence in Mineral Supply Chains (2023)<sup>5</sup>.

### 6.7.1 G7 GEN2 Management of the material topic

The organisation should report on the management of the material topic according to requirements under GEN2 (a) to (e), in section 3.2.1.

Additional topic specific management reporting:

- f) Describe how potential impacts of corruption or risks of corruption are managed in the organisation's procurement practices and throughout the supply chain.

### 6.7.2 G7A Proportion of spending on local suppliers

The reporting organisation should report the following information.

- a) Percentage of procurement budgets that are spent on suppliers that are local to the operations, at contract /licence area levels. The geographic definition of local.

#### Guidance:

For general guidance regarding disclosures reference is made to: [GRI 204: Procurement Practices 2016](#)

**Reference disclosures:** GRI 204: Procurement Practices 2016 (204-1).

### 6.7.3 G7B. Assessment of ESG risks of critical suppliers

The reporting organisation should report the following information:

<sup>5</sup> OECD (2023), Handbook on Environmental Due Diligence in Mineral Supply Chains, OECD Publishing, Paris, <https://doi.org/10.1787/cef843bf-en>

- a) Whether the organisation has a Code of Conduct for suppliers and contractors. If so, list the material topics it addresses and provide a link if it is publicly available.
- b) Whether the organisation has identified its critical suppliers and sub-contractors. If so, provide:
  - i. the definition used for critical suppliers and sub-contractors;
  - ii. the number and percentage of the company's suppliers and sub-contractors categorized as critical.
- c) Percentage of critical suppliers and sub-contractors assessed for ESG issues during the reporting year.
- d) *Percentage of non-critical suppliers and sub-contractors assessed for ESG issues during the reporting year.*

**Guidance:**

In the context of this guideline, sub-contractor means an entity working with offshore operations on behalf of the contractor, operator or licence holder, to perform activities necessary to explore or extract marine minerals.

For a, it is recommended to cover all material topics that are relevant for the organisation's suppliers and sub-contractors.

For b, it is recommended to include all major suppliers and sub-contractors as critical suppliers. Major suppliers are those that account for at least 5% of an organisation's total expenses. In addition, it is recommended to include in critical suppliers, the suppliers of critical components to the organisation's operations, and sub-contractors that perform key activities for the organisation. Critical suppliers should be evaluated beyond the first line of suppliers.

**Reference disclosures:** GRI 414: Supplier Social Assessment 2016 (414-1) and GRI 308: Supplier Environmental Assessment 2016 (308-1).

#### 6.7.4 G7C. ESG impacts in the supply chain and actions taken

The reporting organisation should report the following information:

- a) Total number of potential or actual negative or positive ESG impacts identified in the supply chain, and a break down per material topic and whether impacts were negative or positive.
- b) Number and percentage of critical suppliers and contractors identified as having significant actual and potential negative ESG impacts, including:
  - i. percentage with which improvements were agreed upon as a result of assessment;
  - ii. percentage with which relationships were terminated as a result of assessment, and why.
- c) *Number and percentage of non-critical suppliers and contractors identified as having significant actual and potential negative ESG impacts, including:*
  - i. *percentage with which improvements were agreed upon as a result of assessment;*
  - ii. *percentage with which relationships were terminated as a result of assessment, and why.*

**Guidance:**

In the context of this guideline, sub-contractor means an entity working with offshore operations on behalf of the contractor, operator or licence holder, to perform activities necessary to explore or extract marine minerals.

It is recommended to include ESG requirements in Code of Conduct and contract formats for suppliers and sub-contractors (incl. for example training, safety measures, incident reporting, GHG reporting, biodiversity restoration initiatives etc.) to improve supply chain management, and efficiency of reporting.

For guidance on assessment and improvement referred to in b) and c), see [GRI 414: Supplier Social Assessment 2016](#) or [GRI 308: Supplier Environmental Assessment 2016](#)

**Reference disclosures:** GRI 414: Supplier Social Assessment 2016 (414-2) and GRI 308: Supplier Environmental Assessment 2016 (308-2).



## 7 APPENDIXES

### Appendix A - Guidelines and reporting standards

The following guidelines and reporting standards (in alphabetical order) have been consulted and used as input and inspiration as part of developing this ESG guidance document. Although these guidelines and standards have been references in the main body of this document, it does not imply any involvement or approval of the organisations developing the guidelines and standards:

- Equator Principles
- Extractive Industries Transparency Initiative (EITI)
- Global Reporting Initiative (GRI)
- International Council on Mining and Metals principles (ICMM)
- International Finance Corporation (IFC) Performance Environmental and Social Sustainability standards
- International Seabed Authority (ISA) Guidelines and Standards
- OECD Guidelines for multinational enterprises on responsible business conducts, and due diligence for responsible supply chains
- Sustainability Accounting Standards Board (SASB)
- Task Force on Climate Related Disclosures (TCFD)
- Task Force on Nature Related Disclosures (TNFD)
- Towards Sustainable Mining (TSM)
- United Nations Guiding Principles for Business and Human Rights (UNGP)
- United Nations Sustainable Development Goals

The table on the next pages provides an overview of the standards and frameworks mentioned above, providing information on the purpose of the standard/framework, the target audience and application, and key content and relevance for marine minerals industry.

Standard / Framework	Purpose	Target audience / Application	Key content and relevance for marine minerals industry
<b>Equator Principles</b>	<p>The Equator Principles (EP) are intended to serve as a common baseline and risk management framework for financial institutions to identify, assess and manage environmental and social risks when financing projects.</p>	<p>Corporates and companies in all sectors / Global application</p>	<p>When a Project is proposed for financing, the Equator Principles Financial Institutions (EPFI) can apply International Finance Corporations (IFC) principles to categorise the Project based on the magnitude of potential environmental and social risks and impacts, including those related to Human Rights, climate change, and biodiversity. The Equator Principles can be a support during operations in countries with weak institutions.</p>
<b>Extractive Industries Transparency Initiative (EITI)</b>	<p>A global standard that promotes open and accountable management of oil, gas, and mineral resources. It seeks to address the key governance issues in the extractive sectors.</p>	<p>Global application for member countries</p>	<p>EITI focuses on promoting transparency and accountability in natural resource management. Its key content includes the disclosure of revenues, reconciliation of financial data, comprehensive coverage of extractive industries, disclosure of legal and fiscal frameworks, consideration of social and environmental impacts, independent validation, and stakeholder engagement. These principles can be relevant to mining at sea by ensuring transparency in financial transactions, addressing environmental concerns, and promoting responsible practices in marine extractive activities.</p>
<b>Global Reporting Initiative (GRI) standards</b>	<p>GRI is an independent, international organization that helps businesses and other organizations take responsibility for their impacts by providing them with the global common language to communicate those impacts. Any organization can use the GRI Standards to report information about its impacts on the economy, environment, and people, including impacts on their human rights, in a standardized, comparable way.</p>	<p>Corporates and organizations in all sectors / Global application</p>	<p>GRI provides the world's most widely used sustainability reporting standards, which cover topics that range from biodiversity to tax, waste to emissions, diversity and equality to health and safety. The Standards are available as a free public good and are provided in a number of languages.</p> <p>The Standards are a modular system comprised of three series of Standards to be used together: Universal Standards, Sector Standards, and Topic Standards. Reporting with the GRI Standards, the sustainability reporting process begins with the organization identifying topics on which to report, considering topics that reflect the organization's significant economic, environmental, and social impacts ('material' topics).</p>

Standard / Framework	Purpose	Target audience / Application	Key content and relevance for marine minerals industry
<b>International Council on Mining and Metals (ICMM)</b>	International organisation of mining and metals companies, regional and commodities associations.	Global application	The universal Standards set out the important principles to use when preparing a report and contain disclosures on the organization's context and governance. The Sector Standards describe a sector's most significant impacts from a sustainable development perspective and assist organizations in identifying what to report on those. Topic-specific Standards contain disclosures that an organization should use to report on its impacts in relation to its material topics. GRI has published Sector Standards for the agriculture, aquaculture and fishing, oil and gas, coal, and mining sectors, with the latter, GRI 14: Mining Sector 2024, having been published in February 2024. While GRI 14 does not explicitly address deep-sea mining, it can be used by organizations with similar activities as an input for identifying impacts and determining material topics for marine minerals.
<b>International Finance Corporation (IFC)</b>	IFC's Environmental and Social Performance Standards (8 standards) define IFC clients' responsibilities for managing their environmental and social risks	Corporates and companies in all sectors /Global application	ICMM are made specifically for land-based mining and focus on strengthening environmental and social performance of their members. ICMM requires members to report annually on economic, social, and environmental performance at the corporate level using the GRI standards. Members are required to perform assurance of sustainability reporting and validation of progress with implementing performance expectations at the corporate and asset level. Some aspects are relevant for marine applications.

Standard / Framework	Purpose	Target audience / Application	Key content and relevance for marine minerals industry
<b>International Seabed Authority (ISA)</b>	<p>Draft regulations on exploitation of Mineral resources in the Area (ISBA/29/C/CRP.1) require that the organs of ISA develop certain standards and guidelines to support the implementation of the regulations. The standards will be legally binding on contractors and ISA, whereas the guidelines will be recommendatory in nature.</p>	<p>Contractors with licences for marine minerals extraction in the Area, and globally.</p>	<p>ISA has developed the Mining Code which currently consist of <a href="#">exploration regulations</a> and <a href="#">recommendations</a>, and <a href="#">draft exploitation regulations</a> (ISBA/29/C/CRP.1).</p> <p>The following <a href="#">draft standards and guidelines</a> have been developed for the Area as part of the draft exploitation regulations, and they will also have a global application:</p> <ul style="list-style-type: none"> <li>• Draft guideline on the preparation and assessment of an application for the approval of a Plan of Work for exploitation (ISBA/27/C/3)</li> <li>• Draft standard and guidelines for the environmental impact assessment process (ISBA/27/C/4)</li> <li>• Draft guidelines for the preparation of environmental impact statements (ISBA/27/C/5)</li> <li>• Draft guidelines for the preparation of Environmental Management and Monitoring Plans (ISBA/27/C/6)</li> <li>• Draft guidelines for the preparation of Environmental Management and Monitoring Plans (ISBA/27/C/6/Corr.1)</li> <li>• Draft standard and guidelines on the development and application of environmental management systems (ISBA/27/C/7)</li> <li>• Draft guidelines on the tools and techniques for hazard identification and risk assessments (ISBA/27/C/8)</li> <li>• Draft standard and guidelines for the safe management and operation of mining vessels and installations (ISBA/27/C/9)</li> <li>• Draft standard and guidelines on the form and calculation of an Environmental Performance Guarantee (ISBA/27/C/10)</li> <li>• Draft guidelines for the establishment of baseline environmental data (ISBA/27/C/11)</li> <li>• Draft standard and guidelines for the preparation and implementation of emergency response and contingency plans (ISBA/27/C/12)</li> </ul>

Standard / Framework	Purpose	Target audience / Application	Key content and relevance for marine minerals industry
<p><b>Organisation for Economic Co-operation and Development (OECD)</b></p>	<p>International organisation that works as a knowledge hub for data and analysis, best-practice sharing and advice on public policies and international standard-setting across a range of social, economic and environmental challenges.</p>	<p>Governments, member countries, policymakers, corporates and companies in all sectors / Global application</p>	<p>OECD has several guidelines that are relevant for the marine minerals industry that cover both multinational enterprises and their supply chains:</p> <ul style="list-style-type: none"> <li>• OECD (2023), <a href="#">OECD Guidelines for Multinational Enterprises on Responsible Business Conduct</a>, OECD Publishing, Paris</li> <li>• OECD (2016) <a href="#">OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas</a></li> <li>• OECD (2018) <a href="#">OECD Due Diligence Guidance for Responsible Business Conduct</a></li> <li>• OECD (2023), Handbook on Environmental Due Diligence in Mineral Supply Chains, OECD Publishing, Paris, <a href="https://doi.org/10.1787/ceif843bf-en">https://doi.org/10.1787/ceif843bf-en</a></li> <li>• OECD (2017), OECD Due Diligence Guidance for Meaningful Stakeholder Engagement in the Extractive Sector, OECD Publishing, Paris, <a href="https://doi.org/10.1787/9799264252462-en">https://doi.org/10.1787/9799264252462-en</a>.</li> </ul>
<p><b>The Sustainability Accounting Standards Board (SASB)</b></p>	<p>SASB standards are global sector standards designed to identify a minimum set of sustainability issues most likely to impact the operating performance or financial condition of the typical company in an industry, regardless of location. The standards are designed to enable communications on corporate performance on industry-level sustainability issues.</p>	<p>Investors, corporates and companies in all sectors / Global application</p>	<p>The SASB has developed a set of 77 industry-specific standards including standards for Metals and mining (2021), Marine transportation (2018) and Oil and gas – Exploration &amp; Production.</p> <p>They do not focus specifically on marine minerals in the standards but on topics such as emission and energy, social and governance (e.g. management system, reporting, audits).</p> <p>The standards outlined above do not specifically focus on marine minerals, but have indicators to assess environmental, social and governance performance and measure progress toward achieving its purpose. SASB standards include:</p> <ul style="list-style-type: none"> <li>• Disclosure topics</li> <li>• Accounting metrics</li> <li>• Technical protocols</li> <li>• Activity metrics</li> </ul>

Standard / Framework	Purpose	Target audience / Application	Key content and relevance for marine minerals industry
<p><b>Task force on Climate related Financial Disclosure (TCFD)</b></p>	<p>The Financial Stability Board (FSB) created the TCFD to develop recommendations on the types of information that companies should disclose to support investors, lenders, and insurance underwriters in appropriately assessing and pricing risks related to climate change.</p>	<p>Financial and non-financial organisations and companies in all sectors / Global application</p>	<p>The disclosure recommendations are structured around 4 thematic areas: Governance, Strategy, Risk Management, and Metrics and Targets. The recommendations include general guidance for all sectors, and supplemental guidance for specific sectors and industries.</p> <p>TCFD recommends the use of scenarios to assess risks and opportunities in the short-medium- and long term.</p> <p>The disclosures related to the Strategy and Metrics and Targets recommendations involve an assessment of materiality, with the exception of scope 1 and scope 2 GHG emissions disclosure. The task force also encourages disclosure of scope 3 emissions.</p>
<p><b>Task force on Nature related Financial Disclosure (TNFD)</b></p>	<p>The TNFD is a global, market-led initiative with the mission to develop and deliver a risk management and disclosure framework for organisations to report and act on evolving nature-related risks and opportunities, with the ultimate aim of supporting a shift in global financial flows away from nature-negative outcomes and toward nature-positive outcomes.</p>	<p>Investors, financial institutions and corporates in all sectors / Global application</p>	<p>The TNFD considers five main drivers of nature change: climate change; resource exploitation; land and sea use change; pollution; and invasive alien species. The TNFD recommendations were published in September 2023:</p> <p>The disclosure recommendations for nature-related risks and opportunities follow the TCFD's four pillars of governance, strategy, risk management, and metrics and targets.</p> <p>For target setting at the global level, the TNFD seeks to align with the environment-related Sustainable Development Goals and the Kunming-Montreal Global Biodiversity Framework. At the organisational level, the TNFD also seeks to align with the corporate target-setting approach being developed by the SBTN. TNFD recommendations include the use of scenarios and specific time frames for risk and opportunity assessments: &lt;2 years, 2-5 years and &gt;5 years.</p> <p>TNFD has developed an integrated assessment process for nature-related risk and opportunity management called LEAP. <a href="#">The LEAP approach has a 5-step process:</a></p> <ul style="list-style-type: none"> <li>• Scope your assessment</li> <li>• Locate your interface with nature</li> </ul>

Standard / Framework	Purpose	Target audience / Application	Key content and relevance for marine minerals industry
<p><b>Towards Sustainable Mining (TSM)</b></p>	<p>TSM is a globally recognized sustainability program that supports mining companies with site-level reporting and external verification. Mine sites use TSM to report on protocols and indicators focused on social and environmental performance.</p>	<p>Mine sites / Global application</p>	<ul style="list-style-type: none"> <li>• Evaluate your dependencies and impacts on nature</li> <li>• Assess your nature-related risks and opportunities</li> <li>• Prepare to respond to nature-related risks and opportunities and to report on your material nature-related issues.</li> </ul> <p>TSM has protocols for the social and environmental performance of a mine site. Each protocol has indicators to assess performance and measure progress toward achieving its purpose. Depending on which requirements the site meets, it is assessed at a corresponding level, where C is the lowest and AAA is the highest level.</p> <p>TSM does not focus specifically on marine minerals in the protocols, but more on management commitment, relevant employees, audits, external verification and what should be included in the management system.</p> <p>The protocols are:</p> <ul style="list-style-type: none"> <li>• Biodiversity Conservation Management</li> <li>• Climate change</li> <li>• Crisis Management and Communications Planning</li> <li>• Indigenous and Community Relationships</li> <li>• Preventing Child and Forced Labour</li> <li>• Safety and Health</li> <li>• Tailings Management Protocol</li> <li>• Water Stewardship</li> </ul>

Standard / Framework	Purpose	Target audience / Application	Key content and relevance for marine minerals industry
<b>United Nations Guiding Principles for Business and Human Rights (UNGPs)</b>	The global authoritative standard on the business responsibility to respect human rights, unanimously endorsed by the UN Human Rights Council in 2011.	States, businesses,	The UNGPs are grounded in recognition of the three pillars – protect, respect, remedy: <ul style="list-style-type: none"> <li>• States' existing obligations to respect, protect and fulfill human rights and fundamental freedoms;</li> <li>• The role of business enterprises as specialized organs of society performing specialized functions, required to comply with all applicable laws and to respect human rights;</li> <li>• The need for rights and obligations to be matched to appropriate and effective remedies when breached.</li> </ul>
<b>United Nations Sustainable Development Goals</b>	The UN Sustainable Development Goals provides a shared blueprint for peace and prosperity for people and the planet, now and into the future.	Corporates and companies in all sectors / Global application	The UN 2030 Agenda for Sustainable Development and the associated Sustainable Development Goals (SDGs), provide an ambitious set of targets for improving global environmental sustainability, economic development, social cohesion, and human development. National governments have committed to attain the SDGs by 2030. Although this is not a reporting framework, the SDGs are often referred to in sustainability strategies and reports. Organisations and reporting frameworks often map their guiding principles and reporting requirements against the SDGs to understand where they add value and support universal progress towards sustainable development.





## Appendix B - Acknowledgements

A special thanks to the project sponsors who made the project possible:

Diamond sponsors:



Gold sponsors:



A great thanks to the working group for their key contribution in realising the handbook:

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- DNV
- GCE Ocean Technology
- Global Sea Mineral Resources (GSR)
- INESC TEC
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- The Metals Company (TMC)
- Transocean

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- Adepth Minerals
- AU Commission and the African Minerals Development Centre (AMDC)
- DeepSea Mining Alliance (DSMA)
- DHI
- Deep Ocean
- Equinor
- Fearnley Securities AS
- Fórum Oceano
- Green Minerals
- Guangzhou Geological Survey (GMGS) / China Geological Survey (CGS)
- International Marine Minerals Society (IMMS)
- Japan Oil, Gas and Metals National Corporation (JOGMEC)
- MiningImpact project
- Namibian Marine Phosphate (Pty) Ltd.
- Natural History Museum, UK
- Nautilus Minerals Niugini
- NOV



- Ocean Minerals
- Odyssey Marine Exploration
- Pôle Mer Bretagne Atlantique
- The Cobalt Institute
- The Nickel Institute
- The Pacific Community (SPC)
- Organization for Economic Co-operation and Development (OECD) (Observer status)
- International Seabed Authority (ISA) (Observer status)

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